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The Effects of Psychological Preparation and Individualized Supportive Care on Levels of Distress in In-hospital Burn Patients

©

by

Gwynne E. MacDonald

A Thesis
Submitted to the Faculty of Graduate Studies and Research
in Partial Fulfillment of the Requirements for the
Degree of Master of Nursing

Faculty of Nursing

Edmonton, Alberta

Fall 1987

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled EFFECTS OF PSYCHOLOGICAL PREPARATION AND INDIVIDUALIZED SUPPORTIVE CARE ON LEVEL OF DISTRESS OF IN-HOSPITAL BURN PATIENTS submitted by GWYNNE E. MacDONALD in partial fulfilment of the requirements for the degree of MASTER OF NURSING in the Faculty of Nursing.

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Date: OCTOBER 6, 1987

Abstract

The primary purpose of this study was to determine the effectiveness of psychological preparation and individualized supportive care on the distress levels of burn patients encountering the stressful events of tubbing and grafting. Levels of distress were measured pre and post event by the Profile of Moods Scale (McNair, Lorr & Droppleman, 1971). A secondary purpose was to determine the effectiveness of the intervention in enhancing purposeful selection of problem-focused coping processes, as measured by the Ways of Coping Questionnaire post event (Folkman and Lazarus, 1983). As problems in the past with the psychological preparation component of the intervention have been associated with confounding preparatory information from addition sources, the Social Support Questionnaire (Sarason, 1981) monitored the information received by burn patients, the source and the satisfaction with such information.

Thirty-four subjects randomly assigned to treatment and control groups, divided into three groups, participated in this pretest-posttest control group study. Both treatment groups received psychological preparation, an audiotape presentation providing sensory and procedural information prior to each event. In addition, one group received individualized supportive care from the nurse researcher during the unfolding of the event. Twenty-five subjects reached the third event of post-grafting tubbing.

The results of the study suggested a directional trend towards decreased levels of distress for the treatment group receiving the combined intervention in Event I (tubbing) and Event III (tubbing post grafting). Results appeared to support the hypothesis only in Event III, where differences between posttest levels of distress of the groups were statistically significant. An additional trend in posttest distress was noted across the three events. Subjects receiving psychological preparation alone consistently demonstrated the highest distress levels post event.

Low levels of distress did not appear to be linked with selection of problem-focused coping processes. Subjects appeared to use a "mix" of problem and emotion-focused coping processes across all three events.

The findings of this study have implications for nurses caring for the traumatized burn victim.

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CHAPTER I

Introduction and Statement of the Problem

A burn injury has been described as the most dramatic insult an individual can experience. Yet the management of the stress that a burn patient encounters in response to painful treatments and procedures encompassing burn therapy has received only cursory attention in both nursing and psychological literature to date (Elliott & Olson, 1983). The researcher studying stress and its management is, however, confronted with a concept that has a characteristic form but no particular cause. The visible changes, whatever the cause, make up the form of stress (Raleigh, 1980). In measuring the visible changes due to stress, researchers have been forced to use proxy measures of stress-related variables such as heart rate, problem-solving ability or emotional response. Marked individual differences in physiological responses to stress as noted in physiological indicators have resulted in inconclusive evidence of the effectiveness of experimental manipulation. The validity of such measures are made suspect. An individual's perception and appraisal of the environmental situation seems to be a crucial mediator of stress response (Garbin, 1979). Subjective self reports, therefore, have been suggested by some investigators as a better indicator of situational distress and a mo[illegible] reliable measure of the stress response (Cohen & Lazarus, 1973; Wolfer & Davis, 1970) and its natural counterpart, coping.

When a stressful encounter is viewed as a dynamic unfolding process and not as a static unitary event (Folkman & Lazarus, 1983), significant changes in emotion and coping across stages are expected.

Subjective self reports of emotional response and the coping processes utilized during repeated stressful encounters can demonstrate the effectiveness and therapeutic value of a nursing intervention, such as psychological preparation and individualized supportive care, as a tool to promote cognitive control and purposeful selection of coping strategies.

Despite a variety of disagreements and a lack of clarity in the types of stress analysis, there is a concensus on one issue. A given stimulus becomes a stressor by the mediating processes of cognitive appraisal and coping (Antonovsky, 1979). When cues from the stimulus are evaluated as threatening or noxious, coping behaviours directed at modifying the stressor, defining the situation, or reducing the distress are called into action (Folkman & Lazarus, 1982). These processes of appraisal and coping are seen as interdependent. Coping strategies can serve as appraisers in shaping the meaning of the stimulus, just as forms of appraisal can act as coping behaviours in modifying the stressor (Lazarus, Krammer & Folkman, 1980; Folkman & Lazarus, 1982). Common factors can influence the shaping of cognitive appraisal and coping behaviours. For example, ambiguity or lack of clarity in the environment will result in uncertainty in the mind of the individual. Similarly social resources, of which tangible help, information and emotional support are examples, shape interpretation of the stimulus configuration and coping strategies. Individual differences or person factors are also recognized as potential determinants of the varied responses to stressors observed in research (Folkman & Lazarus, 1980).

Nurses are aware that patients experience stress as they cope with hospitalization, illness and uncertainty about the future. Disproportionate levels of anxiety, tension, worry and generalized discomfort are often present in patients who are confronted with the potential physical dangers of stressful medical procedures. In the nursing literature, the unsuccessful resolution of persistently stressful events has been shown to prolong length of hospital stay, time to first ambulation, incidence of post-operative vomiting and reported pain, and the number of days of reported post-operative temperature elevation (fever) (Anderson & Leonard, 1964, 1965; Johnson, 1970; Wolfer & Davis, 1970; Dumas & Johnson, 1972).

As Florence Nightingale pointed out:

> Apprehension, uncertainty, waiting, expectation, fear of surprise do a patient more harm than any exertion. Remember, he is face to face with his enemy all the time, internally wrestling with him, having long imaginary conversations with him. You are thinking of something else. "Rid him of his adversary quickly" is a first rule with the sick. (Nightingale, 1860, p. 22)

Although Nightingale was not addressing any particular group of patients, her statement reflects the concern that has stimulated research into nursing approaches aimed at alleviating or minimizing distress.

The approach may be psychologically oriented. Adequate preparation for a potentially stressful event may enable the patient to develop effective mechanisms for withstanding the event. The approach may be supportive. A consistently present caregiver may assist the patient in verbalizing concerns and emotions; assist in developing realistic expectations regarding the hospitalization and illness; and assist in coping with actual and anticipated discomfort and disability. The nursing intervention of psychological preparation and individualized supportive care combines the two approaches.

In the past decade, the works of Janis, Wolfer, Leventhall and others have focused on psychological preparation. A review of the literature shows that preparatory information, consisting of the sensations typically experienced during procedural steps, has been successful in reducing distress in patients undergoing events varying in stress magnitude from cast removal (Johnson, Kirchoff & Endress, 1975) to cardiac catheterization (Finesilver, 1978) and labour and delivery (Janis, 1983). Failure to achieve significant results has occurred when the stress event was of short duration. In addition, when preparatory information was brief or confounded by additional preparatory information from physicians and family members, anxiety and helplessness were unintentionally stimulated reducing the stress tolerance (Janis, 1983). Studies combining preparatory information with instruction about behavioral coping strategies and the adverse effects of non-compliance could not distinguish whether the coping action was wholly, partially or at all responsible for the successful outcome (Janis, 1983).

It has been stated that no other group of patients experiences the same kind of bombardment of distress-producing stimuli as burn patients (Davidson & Noyes, 1973; Noyes, Anderson & Hartford, 1971). Research has indicated that behavioral or psychological responses to the burn insult have followed a distinctive pattern, with distress being presented as only one of several responses. Research into nursing interventions aimed at alleviating or minimizing distress during unavoidable stress events such as tubbings, debridement and skin grafting is lacking. By the manipulation of factors shaping cognitive appraisal and coping processes, nurses can derive approaches to minimize sources of distress and assist the patient in coping with unavoidable stress (Finesilver, 1978; Felton, Huss, Payne, 1976; Johnson, 1977; Lindeman, 1972). Psychological preparation and individualized supportive care designed to assist in the shaping of the meaning of stimuli and to facilitate coping processes should theoretically reduce distress levels in burn patients undergoing repeated stressful events.

Purpose

The primary purpose of this study was to determine the effectiveness of psychological preparation and individualized supportive care on the distress levels of burn patients encountering the stressful events of tubbing and grafting. Levels of distress were measured by the Profile of Moods Scale (McNair, Lorr & Droppleman, 1971). A secondary purpose was to determine the effectiveness of the intervention in enhancing purposeful selection of problem-focused coping processes, as measured by the Ways of Coping Questionnaire. Problems in the past with the psychological preparation component of the intervention have been associated with confounding preparatory information from additional sources. The Social Support Questionnaire monitored the information received by subjects, as well as the source and perceived satisfaction with such information.

Research Hypotheses

Five research hypotheses were formulated for this study, all of which pertain to patients with burns.

I Subjects, who receive psychological preparation prior to tubbing and supportive care during and after the event, will manifest less distress than those who receive psychological preparation only and those who do not receive the preparation.

II Subjects, who receive psychological preparation prior to surgical excision and grafting as well as supportive care prior to and after the event, will manifest less distress than those who receive psychological preparation only and those who do not receive the preparation.

III Subjects, who receive psychological preparation prior to tubbing following excision and grafting as well as supportive care during and after the event, will manifest less distress than those who receive psychological preparation only and those who do not receive the preparation.

IV Subjects, who manifest low distress in the events of tubbing, surgical excision and grafting and tubbing following excision and grafting, will select problem focused and problem-emotion focused coping processes in contrast to subjects with high distress responses who will select emotion focused coping processes.

V Subjects, who manifest low distress will perceive the researcher as a significant source of social support in contrast to subjects with high distress who do not.

Definition of Terms

Sensory and procedural preparation: A 10-12 minute tape-recorded transcript administered by the research nurse to burn patients at their bedside 45 minutes prior to the events of tubbing, surgical excision and grafting and tubbing post-excision and grafting. The tape consisted of information about the purpose, meaning and timing of events and procedures. In addition, information about the various sensory experiences that the patient would have prior to, during and following the procedures was provided. The research nurse was present during and after exposure to the taped transcript to address patients' questions, misunderstandings or concerns. Content was derived from taped open-ended interviews with 10 burn patients who experienced the events in the particular health care setting within the past 12 months.

Supportive care: This term was defined, for the purposes of this study, as the assistance received by patients undergoing the stressful events of tubbings, surgical excision and grafting, and post-grafting tubbings that enhanced the verbalization of concerns and emotions, the development of realistic expectations regarding hospitalization and illness and the coping with actual and anticipated discomfort and disability. Together, the patient and nurse explored the meaning and sources of distress in an attempt to ascertain the assistance required. The appropriate assistance might consist of providing additional information, supporting the patient's desire to talk about fears, facilitating interaction with the appropriate burn team member (physician, physiotherapist, social worker, etc.), and in general, to help the patient realistically define, accept and utilize the hospitalization with the least possible distress and discomfort.

Regular nursing care: This term was defined, for the purposes of this study, as the usual or regular nursing care provided to burn patients in a particular health care setting. Physical care was administered following established nursing protocol for the care and dressing of burn wounds and grafts and the care of the post-operative patient. Although the protocol for nursing care of burn patients was "task-oriented", the nurse was considered a vital component in the team approach to total burn care. One nurse was assigned to one or two patients, at the discretion of the charge nurse. Patient assignment was rotated on an irregular basis among nurses who varied in levels of experience, communication skills and problem-solving capabilities required for the care of the emotionally and physically traumatized burn patient.

Tubbing: A term used, for the purposes of the study, to describe the following procedure. The burn patient was gently lowered into a hydrotherapy tank filled with water at a temperature of 100-130°F. The burn wound was carefully inspected and palpated. Hair within the burned areas was shaved for a distance of about 1 inch around the involved wound. Loose skin was gently snipped away with sharp scissors, vesicles that impeded movement were opened and debrided, and the burn gently cleansed with a mild antiseptic. During the entire procedure, isolation precautions (gloves, gown, mask and cap) were carefully observed (Hummell, 1982).

Surgical excision and grafting: Surgical excision referred to the removal of the entire burn wound with temporary or permanent wound closing. Where donar sites were not available to cover the wound, allografts or other tissue (i.e., pigskin) were used. Tangential excision was the superficial removal of thermally damaged tissue down to the plane of viable tissue, ideal for burns of the hands, joints and deep second degree injuries. Grafting referred to the closure of a burn defect with tissue, and may be temporary or permanent, depending on the tissue chosen. Autografts may be thin, thick, expanded or sheet grafts and obtained from donar sites located on the thighs, back, abdomen and scalp (Hummell, 1982).

Tubbings after surgical excision and grafting: This term referred to the resumption of daily tubbings after excision and grafting has occurred. Depending on the graft used, tubbings may commence within 3-5 days post-surgery.

Distress response: This term was defined for the purposes of the study, as the transient, fluctuating affective states identified and assessed by the Profile of Mood States questionnaire.

Coping process: A term which was defined, for the purposes of this study, as the processes a person used to deal with a specific stressful encounter, as identified by the Ways of Coping questionnaire. The process may be problem focused - doing something to change for the better the problem causing the distress or emotion focused - the regulation of distressing emotions. A problem emotion focused process was identified as seeking social support.

Social support: A term which was defined, for the purposes of this study, as the identified members of an individual's social network who provided information, assistance and guidance; tangible assistance; and emotional support, as determined by the Social Support questionnaire.

Conceptual Framework

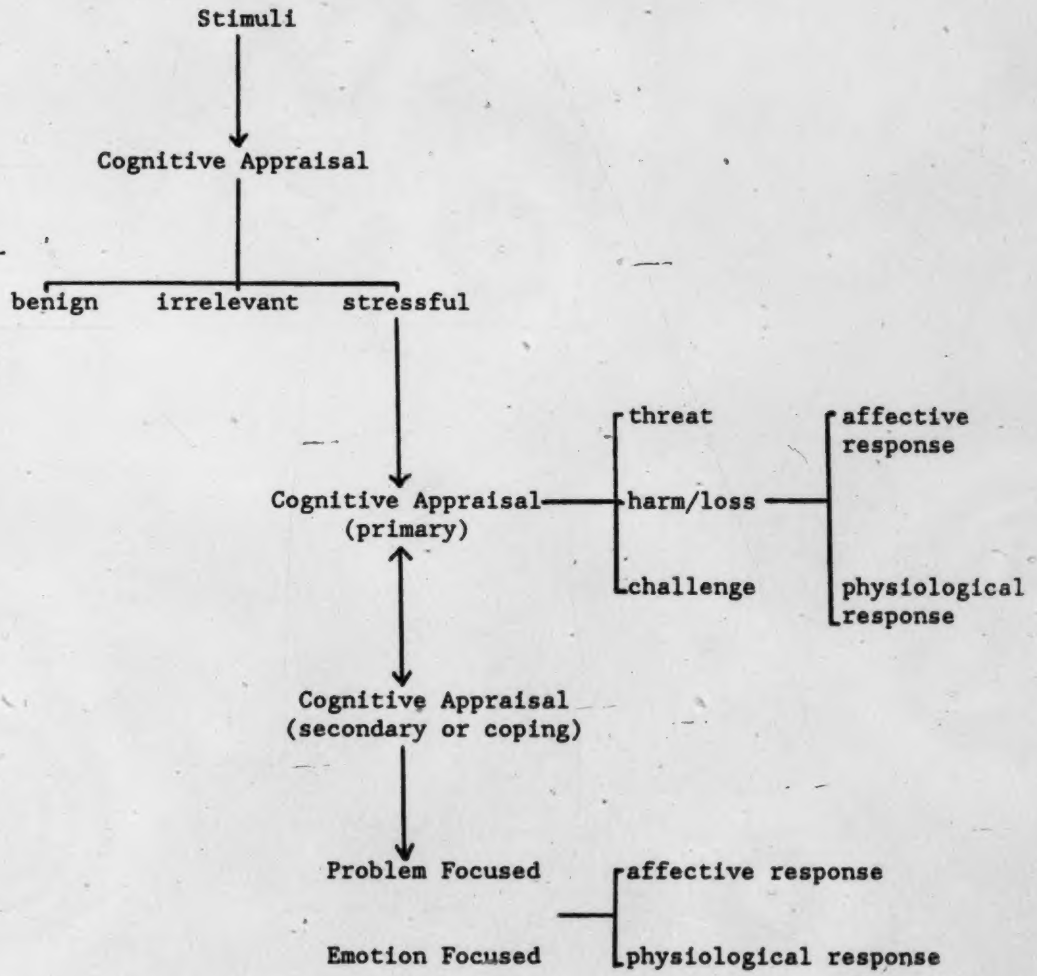
The interdependence of stress and coping and the sharing of common determinents are reflected in Lazarus' Transactional Model of Stress (Folkman & Lazarus, 1982). Stress is defined as "a relationship between the person and the environment that is appraised by the person as relevant to his or her well-being and in which the person's resources are taxed or exceeded" (Folkman & Lazarus, 1983). The model reflects a cognition oriented process theory of stress and coping (Figure I).

Stimuli from the person-environmental interaction become stressors through the cognitive process of appraisal. The stressor is initially appraised as irrelevant, benign or innocuous resulting in positively toned emotions, or appraised as stressful, resulting in negatively toned emotions (Scott, 1980). If the stimuli are appraised as stressful, further differentiation occurs. Stressful stimuli are characterized by threat, harm/loss or challenge. Threat refers to the potential for harm or loss - the person's environment interaction is viewed as hostile, or dangerous, with the self lacking in resources to control or master it. Challenge refers to the opportunity for growth, mastery or gain, assuming the demands are difficult, but not impossible, using existing or acquirable skills (Scott, 1980). Harm/loss refers to the injury or damage already done.

Once the stimulus has been appraised as threatening, cognitive and behavioral efforts to manage (master, reduce, or tolerate) the troubled person-environments interaction are set into motion. The coping process is viewed by Lazarus as having two major functions - the regulation of negatively toned or distressing emotions (emotion-focused) and doing something to change for the better the problem causing the distress (problem-focused).

It is important to note that primary and secondary appraisals are interdependent. Many coping strategies can have an appraisal function

Figure 1: Transactional Model of Stress and Coping



in that they shape the meaning of the event and, conversely, many forms of appraisal can have a coping function in that they help regulate distress (Folkman & Lazarus, 1982). The mediating processes of appraisal and coping are jointly influenced by the actual situational context and by personality factors (Folkman and Lazarus, 1983) (Figure 2). Situation factors are subdivided into formal and substantive factors. Formal factors deal with stimulus configuration. Included in such factors are the degree and imminence of harm; the frequency, duration and chronicity of the harmful encounter; and ambiguity about whether there will be harm and about coping alternatives. Substantive factors include the nature of the harm, whether it is physical or psychological; the personal resources of skills, energy and stamina; the social networks, support systems, money, and institutional resources. Lazarus differentiates between social networks and social systems. Social networks describe the social structure of which a person is a part. Social support implies a resource that an individual may draw up for tangible help, information and emotional support such as that provided when another's presence or action provide comfort (Schaefer, Coyne & Lazarus, 1982).

In addition, person factors influence the processes of appraisal and coping. Such factors include motive strength and pattern, ego development, cognitive style, belief systems (self esteem, locus of control) and social competence (Lazarus, 1965; Lazarus & Folkman, 1982). It is through such person factors that variation in stress-reaction patterns to the same stress situations by individuals can be explained.

Figure 2: Determinants of the Mediating Process of Appraisal and Coping

Situation Factors	Formal	1. imminence of harm 2. degree of harm 3. ambiguity 4. frequency, duration, chronicity of harmful encounter
	Substantive	1. nature of the harm (physical, psychological) 2. person resources 3. environment resources 4. support systems, institutional resources, money
Person Factors		1. motive strength and pattern 2. belief systems 3. cognitive style 4. ego development 5. social competence

The Transactional Model of Stress proposed by Lazarus provides a working framework from which nursing interventions aimed at reducing or alleviating stress may be researched. It can be hypothesized, therefore, that psychological preparation in the form of sensory and procedural information prior to stressful events and supportive nursing care during the unfolding of the stressful event will:

1. reduce the degree of ambiguity of the stimulus cue by describing the imminence and degree of harm; frequency, duration and chronicity of the harmful encounter; and the nature of the harm.
2. bolster social support resources by providing tangible help, information and emotional support, thereby assisting cognitive control and purposeful selection of coping strategies.

The effectiveness of the intervention will be reflected in significant reduction of negatively toned emotions. Lower levels of distress will be associated with the use of more problem focused coping processes and fewer negatively-toned emotion-focused processes.

CHAPTER II

Review of Literature

Nature of Stress

"Stress", a term of Latin derivation, was used in the English language to describe human experience and behavior long before it was given a formal scientific definition for use in physics and engineering (Hinkle, 1974). In the 17th century, stress meant "hardship, straits, adversity or affliction" (Anions, 1933).

> During the 18th and 19th century the usage was largely replaced by other uses in which the term denoted "force, pressure, strain or strong effort" exerted upon a material object or a person - or upon a person's "organs or mental powers". It then carried with it the connotation of an object's (or person's) being acted upon by forces from without, resisting the distorting effects of these forces, attempting to maintain its integrity, and trying to return to its original state. The word was taken over into science in this sense, and probably the scientific use of the term reinforced the popular usage. (Hinke, 1974, p. 337)

Scientific interest in stress has been developed in several disciplines, including sociology, anthropology, psychology, physiology, endocrinology, medicine and nursing (Leventhal & Neremz, 1983). Ambiguity about the proper use of the term stress continues. Stress has been used to refer to circumstances in the environment that disrupt an organism's normal activity (Antonovsky, 1979; Kagan, 1971); it has been used to refer to the organism's responses, either psychological or physiological, to particular events (Burchfield, 1979; Mason, 1971;

Selye, 1974, 1976) or as a "global" label to describe a field of study that examines the processes of an organism's adaptation to disruptive events (Lazarus, 1971; Mason, 1971).

Recent advances in stress research have moved from the emotion or arousal context to one in which the individual's interpretation and evaluation of a stimulus-filled environment becomes the basis for a response to the stress experience and in which emotions and physiological responses are viewed as by-products of cognition (Scott, Oberst, Dropkin, 1980).

> Think of the stress response as a multidimensional concept, with components of physiological arousal in various organ systems, subjective phenomenology, and objective behavioral reactions. (Lazarus, 1975, p. 235)

Theories of Stress

Stress and coping are considered as part of a process involving environmental events, psychosocial processes and physiological response (Fleming, 1984). Theories have evolved from two basic traditions - one, being a biological perspective based on research in physiology and endocrinology; the other based on a psychosocial perspective. Each has made important contributions to the understanding of the concept of stress.

Biological Tradition

Cannon's (1936) work on emotional stress considered stress and its response to be adaptive in that they prepared the individual to cope with danger. Once danger was recognized, a state of heightened arousal followed - adrenal gland and sympathetic arousal led to the secretion of epinephrine and increased heart rate, respiration and skeletal muscle tone. Blood flow to the skin and viscera was reduced. In the heightened state of arousal, the individual could fight or flee, a response directly related to survival and adaptation (Fleming, 1984).

Selye's (1936, 1950, 1956, 1976) generalist position that any noxious stimuli could mobilize a syndrome of defense called the General Adaptation Syndrome (GAS) reflects the primary view of stress research in the biological community. The adaptive non-specific biological response is characterized by three distinct phases: arousal, resistance and exhaustion. Regardless of the type of assault, any noxious stimuli would set into notion the same neuro-humoral mechanisms and tissue reactions (Lazarus, 1975). Although recent work distinguishes between physiological stress and emotional "distress", Selye (1976) believes the same pattern of biological responses (pituitary, adrenal cortex, thymus, visceral) occurs - some features to the pattern may be specific to particular stressors, but these are "situationally induced variants on a common biological theme" (Leventhal, Nerenz, 1983). A similar non-specific hormonal response is reflected in Levi's work (1971) on secretions of catecholamines.

The implications of Selye's (1976) theory on stress are threefold. The theory implies that the effects of stress are cumulative. That is, the damage produced by the stressors accumulates over time. Second, the cumulative effects become critical when one's ability to cope is overwhelmed. Third, stress may be additive; an individual's reaction to stress will be added to by reactions to previous exposures to threats (Fleming, 1984). The model forms the framework of researchers of life events who relate illness to life changes encountered and the demands made on behavioral adaptation (Holmes and Rhale, 1967; Volicer, 1973, 1975).

The work of Mason (1975) argues against Selye's non-specific model. Research demonstrated different patterns of response of the endocrine system to specific threat - uncertainty or ambiguity was linked with catecholamine and cortibol increases, whereas anger or fear demonstrated increases in norepinephrine and cortisol. Mason suggests that the sensitivity of the endocrine systems to psychological influences may have contaminated earlier experiments of "physical stressors", thus placing Selye's theory in question. The theory also fails to explain systematic variation of individual response to noxious stimuli, or identify the factors that influence the response. The processor mechanism of coping is ill-defined. Correlated to the process of adaptation, it is delegated to only the second stage of the syndrome, the stage of resistance. Selye suggests that adaptation or coping may be assisted by "acclimatization" which prepares the body to meet stress by exposing it to a series of minor, though related stresses. One has difficulty in moving the concept of acclimatization from the laboratory to a clinical setting.

Yet the idea of "optimal stress" - that point at which the body's mechanism for dealing with stress is exactly correct for the amount of stress it is meeting - as stimulating adaptation (or coping) is thought-provoking. It can be theorized that failure of psychological preparation in some individuals may be linked to understimulation, that leaves the body unprepared or to overstimulation, which produces anticipatory preparation that is in excess of need and resulting in undue distress.

Psychosocial Tradition

The emphasis on appraisal is a central component of psychosocial research on stress. Antonovsky (1979) suggests that whether a "given phenomenon, a given experience, a given stimulus is a stressor or not depends both on the meaning of the stimulus to the person and on the repertoire of readily available, autonomic homeostasis - restoring mechanisms available". Although Antonovsky agrees that there are individual or group differences in the "differential perception" of phenomena as stressors or stimuli, he argues that there is a broad cultural consensus that certain experiences are noxious or stressors. Organisms respond to stressors with a state of tension - the individual with a strong sense of coherence can prevent tension from being transformed into stress. Coping is viewed as a plan for behavior, characterized by a high level of rationality, flexibility and foresightedness. Although characteristics that facilitate dealing with or overcoming a stressor are identified, the theory is largely global in application, appropriate only to sociological relations between the health team and the patient and for the organization of health care services (Antonovsky, 1979).

Antonovsky's approach to differentiating stressors from stimuli is identical to Lazarus's Transactional Model of Stress. Developed from earlier research (Coyne & Lazarus, 1980; Folkman, Schaefer & Lazarus, 1979; Lazarus, 1966, 1981; Lazarus, Averill & Opton, 1970), the theoretical model suggests that a stimulus becomes a stressor through the mediating process of cognitive appraisal and coping. The processes are viewed as interdependent and shaped by common person and situation factors. Responses to threat may be affective or physiological. The cognitive approach of primary and secondary appraisal and anticipatory coping is one of few theoretical approaches that discusses how individuals respond to threatening situations before the situation develops into a crisis (Silver & Wortman, 1980). The model, thus, suggests that any intervention aimed at avoiding or reducing stress should be designed to facilitate cognitive appraisals, enhance the repertoire of coping responses and to nurture the individual's confidence in coping abilities (Meichenbaum & Jaremko, 1983).

In contrast to Lazarus's model, other theorists have focused on coping mechanisms directed towards the crisis of undesirable life events. Klingers' Incentive-Disengagement Theory (1975, 1977), Wortman and Brehm's Integrative Model (1975), the Learned Helplessness Approach (Seligman, Maier, Solomon, 1971) and Shontz's Theory of Reaction to Crisis (1975) share common assumptions (Silver and Wortman, 1980) - that there is a general pattern or consensual response to life crises; that individuals go through stages over time in attempting to come to terms with an undesirable life event; and that individuals accept or resolve their crises. Silver and Wortman's (1980) review of the literature demonstrated wide variations in individual responses to negative life events and little reliable evidence to support the idea of stages of emotional response. Criticism of such theories focused on the failure to incorporate intervening variables that may mediate individual coping responses and explain the diverse patterns of response.

Cognitive and Affective Domains

Although emotion, as a psychological concept, is the topic of widespread concern in a large variety of fields, a feeling of disjointedness about its definition prevails (Plutchik, 1980). In an attempt to integrate the diversity in the field, theoretical perspectives will be grouped into two traditions - the evolutionary context and the psychophysiological context (Plutchik & Kellerman, 1980).

Darwin's work provided the foundation for the evolutionary tradition of the study of emotions. From the Darwinian viewpoint, emotions are basically adaptive - they have evolved with specific functions, which are primarily to increase chances of survival. Demonstrating a similar focus on adaptation, Plutchik's structural functionist model (1980) conceptualizes emotions as being a behavioural homeostatic process - an organism cognitively interprets the harm or benefit relationship with the environment. The process serves as a fundamental signaling system - derivative states such as personality traits, behavioral or coping styles are produced and can be actually observed. Cognitive capacities, synonymous with thinking and including such functions as perceiving, conceptualizing and remembering, are viewed as evolving with the evolution of the brain, "in order to make evaluations of stimulus events more precise so that the emotional behavior that finally resulted would be adaptively related to the stimulus. It is in this sense that cognitions are in the service of emotions" (Plutchik, 1980, p. 15).

Although there are important differences among theorists working within the psychophysiological mode, they share a common concern with the role of feedback, either from the autonomic nervous system (James, 1890; Mandler, 1980), the facial musculature (Tomkins, 1980; Izard & Buechler, 1980) or brain centres (Cannon, 1936; Mason, 1972; Levi, 1972; Selye, 1976) as vital determinents of emotional response. Yet emotions are more complex, organized states involving not just an action impulse and somatic disturbances. Proponents of the General Arousal Theory (Selye, 1976; Holmes & Masuda, 1974) who view physiological arousal as the same in any emotion, regardless of quality, are unable to explain the specificity of autonomic end-organ reactions to different types of person-environment transactions (Lacey, 1967) or the different hormonal response profile for varying physical stressors (Mason, 1975).

The concept of cognitive appraisal is essential to understanding individual differences in emotional intensity, quality and fluctuation observed in comparable environmental settings (Lazarus, Krammer & Folkman, 1980). From the perspective of cognitive theorists, the quality and intensity of any emotion is generated by its own particular appraisal (Ellis, 1962; Klein, 1970; Lazarus, Krammer and Folkman, 1980; Weiner, Graham & Chandler, 1982). In contrast to other theorists who treat coping only as a consequence of emotion (Tomkins, 1980; Izard, 1980), Folkman and Lazarus view emotional flux and quality of the emotion as products of coping. Coping alters the person-environment relationship (transaction) as construed and perceived by the individual of the positive or negative significance of the encounter.

> Emotions are thus of tremendous diagnostic value, because their intensity and quality reveal how people think they are managing what is important to them in any particular context. As a person's appraisals of a transaction change, so too will his or her emotions. (Folkman and Lazarus, 1983, p. 4)

Therefore, any intervention aimed at changing how an individual construes the person-environment transactions has measurable outcomes in the quality and intensity of emotional responses (Folkman & Lazarus, 1983).

Measures of Stress

The researcher studying stress is confronted with a concept that has a characteristic form but no particular cause. The visible changes due to stress, whatever the cause, make up the form of stress (Raleigh, 1980). The emotions - anxiety, fear, hostility, etcetera - are essentially subjective. The effects of the person-environment transaction, the source of potential distress-producing stimuli are objective. Stress, however is not an emotion. It is a response to a stimulus to which an individual reacts with his or her emotions (May, 1972). Emotion and physiological responses are viewed as by-products of the person- environment encounter.

According to Selye (1976) the most commonly used indicators of the stress response are plasma and/or urinary levels of ACTH, corticosteroids and catecholamines - all are stress hormones which may be used to measure the role of the adrenal cortex and adrenal medulla during the stress response. The measures have been demonstrated to be vulnerable to "natural diurnal fluctuation, sympathomimatic substances and psychogenically induced stress responses" (Everly & Rosenfeld, 1981, p. 48). Electromyographic (EMG) measurement of the stress response, on indirect measurement of striate muscle tension, is questioned as an accurate index of acute versus chronic stress arousal. Striate muscle tension is now recognized as having both state (acute, transitory phenomena) and trait (chronic and stable phenomena) measurement qualities. Problems in interpretation of results question the validity of such measurement.

Similar difficulties are encountered with other indices referring to the physiological properties of the stress response. Cardiovascular measurements, by peripheral blood flow and heart rate, are indicators of direct nerve innervation and epinephrine release generated by the adrenal medulla (Everly & Rosenfeld, 1981). Both measures are subject to inaccuracy and practical limitations. Electrodermal measurement assesses the effects of stress on the state-electrical characteristics of the skin. Skin resistance (Galvanic Skin Response), once a common measurement of the electrodermal phenomenon has been demonstrated to be vulnerable to many sources of error (Hassett, 1978). Physiological indices do not account for the wide range of intra-individual and inter-individual differences unrelated to the specific stressor conditions (Garbin, 1979). Inconclusive evidence of the effectiveness of experimental manipulation on physiological indices has resulted, making the validity of such measures suspect.

In addition to physiological arousal, an action impulse also encompasses the expressive aspects of emotion. Facial expressions, postural patterns, verbal styles and body gestures are capable of expressing or communicating the levels of distress an individual is experiencing. Yet to distinguish between the various modes of response and to objectively quantify the response requires an expertise that many researchers lack. Qualitative judgements of emotional response are very difficult to record reliably (Diers, 1979).

If an individual's perception and appraisal of the environmental situation is the crucial mediator of stress response, subjective self reports of distress are indicated (Wolfer & Davis, 1970). Studies have demonstrated that self-rating scales of affective states are sensitive to individual differences and sensitive to expected changes on a day to day basis (Johnson, 1970; Wolfer & Davis, 1970) within the hospital setting.

Currently there exist numerous and diverse methods for measuring affective response, many of which focus on the distinction between state and trait variables. Trait refers to the stable reaction pattern that occurs across all situations and therefore is, to some degree, predictable. A state, however, can fluctuate; that is, the reaction in one situation may not occur in another. The nursing literature reflects the wide use of the State-Trait Subjective questionnaires, of which the State-Trait Anxiety Inventory (Spielberger, 1970) is the most common example. There are, nevertheless, two inherent difficulties with such questionnaires. If an individual's emotions throughout a stressful encounter are aggregated and presented as a summary "state" score, changes in emotional state, reflecting a situational and cognitive base, will be masked or ignored (Folkman & Lazarus, 1983). Important indicators of an individual's ongoing evaluation of the demands of a stressful encounter are buried. The second difficulty relates to the synonymous use of anxiety with stress. For an individual to suffer from anxiety, each situation is viewed as "threatening". By ignoring subjective reports of confident, hopeful, angry, relieved, etc. the researcher misses the cognitive appraisal of stimuli as challenging, harm-evoking or benefit-producing (Folkman & Lazarus, 1983).

The complexity of the coping domain is reflected in the diversity of existing approaches to assessment (Billings & Moos, 1984). Coping has been sampled by eliciting information on how individuals respond to standardized descriptions of stressors (Kravitz & Hammen, 1979; Sidle, Moos, Adams & Cody, 1969) or how they coped with actual stressful events (Billings & Moos, 1981; Folkman & Lazarus, 1980) or how they endured sources of strain (Pearlin & Schooler, 1978). The most widely used inventory of coping responses in contemporary research is Lazarus' Ways of Coping (McCrae, 1984), an instrument designed to assess the broad range of cognitive and behavior strategies individuals use to manage stressful demands.

Supportive Care

Psychologically-oriented nursing interventions developed out of the early writings of Orlando (1961) and Wiedenbach (1964). A deliberate nursing approach was advocated by which the nurse assisted the patient in expressing the specific meaning of the patient's behavior in order to ascertain the level of distress (Wolfer, 1973). Once the source of distress is identified, further exploration by both patient and nurse ascertained the assistance required.

Nurse researchers recognized the need to substantiate by empirical evidence the "deliberate" prescriptions for nursing practice intended to promote individualized attention and clarification of feelings and thoughts (Wolfer, 1973). Operationally defined as "experimental nursing"; the nursing approach was systematically assessed to ascertain its effectiveness by direct examination of outcome variables. Dependent variables were operationalized in terms of various aspects of patients' physical condition on the basis of their assumed clinical relationship to treatment variables as well as their apparent measurement feasibility (Wolfer, 1973). Clinical indices such as length of hospital stay, time to first ambulation, incidence of fever, nausea and vomiting, urinary retention, changes in vital signs, number of dosages of pain, anti-emetic and sleep medications and incidence of post-operative complications (Anderson & Leonard, 1964; Anderson and Leonard, 1965; Chapman, 1970; Dumas & Leonard, 1963; Elms & Leonard, 1966; I. Johnson, 1970; Wolfer & Davis, 1970; Dumas & Johnson, 1972) were selected as indicators of relief of emotional distress. The focus of initial exploratory designs and subsequent experimental-control group comparisons was on the events of hospitalization that nurses recognize as potential points of distress - admission, surgical intervention and transfer (Wolfer, 1973).

Study results have demonstrated an apparent difficulty in using recovery or physiological outcome variables. In a study investigating the effectiveness of experimental nursing during the time of admission. Elms and Leonard (1966) selected four physiological indicators of distress: systolic blood pressure, radial pulse rate, respiration and oral temperature. A total of 75 subjects, admitted for gynecologic surgery, were randomly assigned to three treatment groups and randomly assigned to an experimental or client centered approach, a controlled task-oriented approach, or a "regular" nursing approach. Results demonstrated a common problem faced by nurse researchers studying the effectiveness of experimental nursing - physiological indicators did not show statistical differences between the effects of nursing interventions. Such indices which are appropriate in laboratory studies demonstrated an insensitivity when applied to the clinical setting. Extraneous or situational variables such as specific operative procedure, duration of surgery, type of anesthesic, quality and amount of special care available (B. Johnson, 1970) confounded the results. Wolfer (1983) suggested a possible solution of the measurement problem. If the major goal of experimental nursing is the promotion of patient's psychological well-being before, during and after surgery (or other stressful events) more appropriate criteria, such as patient self-reports, would directly measure the cognitive and emotional responses to the stresses and demands of hospitalization. Support for the recommendation is apparent in clinical statistical significance in studies incorporating subjective rating scales with physiological indices (Elms & Leonard, 1966; Wolfer & Davis, 1970; Diers, Schmidt, McBride & Davis, 1972).

A review of the experimental nursing literature reveals that few guidelines have been provided for the operational definition of the independent variable; that is, the definition remains "global" (Diers, Schmidt, McBride & Davis, 1972). Replication of such vaguely-defined and documented experiments becomes extremely difficult. Only through replication of such causal hypothesis testing studies under different conditions can researchers begin to accept the predicted distress reduction associated with experimental nursing (Diers, 1979).

Psychological Preparation

Deliberate and experimental nursing approaches formed the basis for the development of psychologically oriented nursing approaches. A client-centered approach focuses on the patient's perception of hospitalization and illness and the development of realistic expectations and coping strategies in situations of actual or anticipated discomfort and disability. Appropriate information assists in the shaping of the meaning of events and facilitates individual coping processes.

Stimulation in the area of study of preparatory information developed from the ideas of Janis' (1958) "work of worrying" concept and laboratory experiments using adversive stimuli such as shock as threatening events. Janis postulated that the provision of accurate and authoritative information about the impending stress leads to anticipatory fear and the work of worrying. In turn, this leads to the development of accurate expectations - the knowledge of specific problems and reassurances - which has the result of reducing the incidence of hostility and depression during stress impact (Vernon & Rigelow, 1974). A study of 77 surgical patients (Janis, 1958) indicated that patients informed of the impending stress were less likely to overreact to setbacks during the post-operative period. Although definitive conclusions about the causal sequence could not be drawn from the correlational study (Janis, 1983), subsequent experiments studying the effects of various kinds of preparatory information on stress-tolerance were fostered.

Laboratory experiments have demonstrated that perceived control during threatening situations, such as electric shock (Haggard, 1943; Pervin, 1963, 1964), reduces subject's distress response. It is left unclear as to the theoretical explanation as how information about the nature and timing of such potentially stressful stimuli reduces the stress impact.

The clinical trial by Egbert (1964) and a team of anesthesiologists encouraged further clinical trials by nurses and psychologists (Wilson-Barnett, 1984). In a small clinical trial, patients scheduled to undergo abdominal surgery were visited the night before surgery and given procedural preparation about the location, severity and duration of the pain they might expect to feel post-operatively. Experimental patients were also taught behavioral skills such as how to relax muscles and how to turn properly in bed so as to reduce pain. The results indicated no difference in narcotic usage between treatment and control groups on Day I, yet significantly lower levels in the treatment group on subsequent days. Treated patients were discharged earlier from hospital and rated blindly by observers as being in less pain (Kendall, 1983). A similar pre-operative preparation by Lindeman and Wooldridge (1971), designed to facilitate coughing, turning and deep breathing in a sample of 261 adult surgical patients, demonstrated similar results-reduced length of hospital stay and better post-operative ventilatory function among treatment group members.

Nursing researchers have focused predominantly on diagnostic procedures and surgical interventions such as cast removal (Johnson, J., Kirchoff, Endress, 1975), barium enemas (Wilson-Barnett, 1978) cardiac catheterization (Finesilver, 1979) and the surgical interventions of cholecystectomy and herniorraphy (Johnson, Rice, Fulber & Endress, 1977) and hysterectomy (Wilson-Barnett, 1978). Results have been mixed, suggesting that the success of preparatory information will vary depending on the nature of the stress and be most applicable for those episodes of stress that are painful or of long duration (Janis, 1983).

In the past decade, the research of Jean Johnson has greatly influenced the study of psychological preparation for stressful events. Initial laboratory experiments (Johnson, 1972) tested the assumption that discrepancy between expectations about sensations and experience during a threatening event results in distress. The basis for the study was the belief that information extracted from threatening stimuli relevant to distress is information about sensations. Ischemic pain in the arm produced by a tourniquet was used as the adversive stimuli. Incorporating a 2 x 2 design with 12 subjects per cell, subjects were administered either sensory or procedural information, distraction or attention treatments. Results supported the hypothesis that accurate sensation descriptions reduced subjective and objective measures of distress. Similar results in field experiments were obtained. Replication of the causal hypothsis under differing conditions, such as cast removal, endoscopic examination and cholecystectomy continued to demonstrate the statistical significance of sensory and procedural information or measures of distress. Recovery indices such as days of post-operative hospital stay, use of analgesics, time to first ambulation and subjective and objective rating scales of distress supported the predicted distress reduction associated with psychological preparation.

Additional studies, however, by Johnson and other nurse researchers have resulted in partial or no support for the effectiveness of psychological preparation in reducing distress. Failure to achieve significant results has occurred when the stress event was of short duration (Finesilver, 1979; Johnson, 1978). In addition, when preparatory information was brief or confounded by additional preparatory information from physicians and family members, anxiety and helplessness were unintentionally stimulated, reducing the stress tolerance (Janis, 1983). Studies combining preparatory information with instruction about behavioral coping strategies and the adverse effects of non-compliance (Fuller, Endress & Johnson, 1977; Johnson, 1977; Wolfer & Visintainer, 1975) could not distinguish whether the successful outcome of the psychological preparation was partially, wholly or not at all due to coping actions or sensory and procedural preparation (Janis, 1983).

The events selected for study by researchers studying interventions to alleviate patients' distress have been short duration. Researchers have chosen to study patients before, during and after discrete events to determine the immediate effects of the intervention on distress response (Wilson-Barnett, 1984). Yet hospitalization is a process, and the opportunity exists to study the effects of interventions across events that evoke increasing levels of distress. Monitoring actions patients find effective in dealing with the events may give indications for possible interventions or provide support for the causal hypothesis under study (Lazarus, 1979). Researchers in the area of psychological preparation have ignored the possibility that the support of a "significant other" at the time of stress may have a significant effect (Wilson-Barnett, 1984). The studies of Wolfer and Visintainer are an attempt at investigating the effectiveness of psychological preparation and the support of a "significant other" over repeated stressful events of hospitalization.

Psychological Preparation and Stress-Point Supportive Care

The nursing intervention of psychological preparation and stress-point supportive care combines the theoretical rationale of deliberate and experimental nursing approaches with the theoretical framework of psychological preparation. Developed by Wolfer and Visintainer (1975) and tested among children scheduled for minor surgery, the intervention was aimed at removing or minimizing stress and assisting the child in coping through the provision of information, instruction and support from a single nurse who was present at critical times. The preparation consisted of two components: child and mother component. The child component consisted of information, sensory expectations, role identification, rehearsals and support. During all nurse-patient interactions, the child's fears and concerns were explored. Any misconceptions were clarified in terms familiar to the child. Information about procedures included procedural preparation and the sensations and emotions the child might expect to experience. The child was encouraged, through play, to exchange roles with the nurse and conduct procedures on a doll. Once the preparatory information and rehearsal were complete, the child was encouraged to identify goals, and was shown the behavior (role) necessary to obtain it. For example, for a short blood test, the child would need to hold the arm still. Rehearsal reinforced the specific behaviors (Wolfer & Visintainer, 1975).

The mother component of the preparation recognized the rationale of Skipper (1968) and Mahaffy (1965) in that a parent's emotional state might be transmitted to the child. The preparation and support was integrated for the parent and child. The intervention attempted to provide individualized attention to the mother, to explore and clarify their feelings and thoughts and to provide accurate information and appropriate reassurance.

The intervention was tested on 80 hospitalized children, admitted for minor surgery, randomly assigned to experimental and control groups. The experimental group received the intervention and supportive care at critical points pre- and post-operatively. The control group received routine nursing care and procedures. The results supported the hypothesis that children who receive systematic psychological preparation and supportive care during critical points in contrast to those who do not showed less upset behavior and more cooperation in hospital and fewer post-hospital adjustment problems. Parents were less anxious and more satisfied with information and care received.

Methodological problems prevented the drawing of conclusions from results. The nurse observer was not blind to conditions when behavioral ratings were made, raising the question of observer bias. Bias on the part of the parents of the experimental group, who recognized the additional effort and time spent by the research nurse, was also a limitation. Replication to determine if personality and interpersonal capabilities of the research nurse influenced in the positive effects was indicated. In addition, the question was raised if the positive effects resulted from the supportive care on the sensory and procedural preparation or the intervention to facilitate coping.

The study was replicated to correct the problems in the original investigation. Children were randomly assigned to one of three treatment groups or a control group: 1) a combination of systematic preparation, rehearsal and supportive care prior to each stressful procedure, 2) a single session preparation conducted after admission,

3) consistent supportive care given by one nurse at the same points as in the first condition, but excluding the systematic preparation and rehearsal. Similar results to the first investigation supported the effectiveness of the first treatment (Visintainer & Wolfer, 1975).

The effectiveness of psychological preparation and stress-point supportive care as a nursing intervention to reduce distress response among young hospitalized children has been demonstrated. However, concern continues about the ability of the researchers to distinguish if the outcome was partially, wholly or not at all due to the coping action fostered by rehearsal or supportive care or due to the effectiveness of sensory and procedural preparation in reducing ambiguity and alleviating the discrepancy between expectation and experience. An additional concern is the applicability of the intervention to an adult population. Recognizing the support generated from the nursing literature in relation to the effectiveness of psychological preparation and supportive or experimental nursing approaches, it was the belief of the researcher that these two components of Wolfer and Visintainers' nursing intervention could be combined and tested in the clinical setting among adult burn patients.

The Burn Patient

Perhaps no other group of patients experiences the bombardment of distress-producing stimuli than the group comprised of burn patients. The burn experience has been described as both physically and emotionally devastating (Davidson & Noyes, 1973). The injury is unique in that it severely tests the adaptive capabilities of an individual by exposing the patient first to severe pain and the threat of death and later to prolonged convalescence and disfigurement (Noyes, Anderson &

Hartford, 1971). Interest in the psychological aspects of burn victims did not appear in the literature until after the Coconut Grove fire disaster of 1942 (Wernick, 1983).

Initial studies, anecdotal in nature and based primarily on interviews and observations, identified burn victims at high risk of psychological problems secondary to the burn result (Adler, 1943; Cobb & Lindeman, 1943). The incidence of psychological problems has been observed to be quite high during hospitalization. It has been estimated that between 50 to 100% of severely burned patients have developed at least brief periods of psychological disturbances (Cobb & Lindeman, 1943; Hamburg, Artz, Reiss, Amspacher & Chambers, 1953; Hamburg, 1953; Noyes, 1971). Anderson, Noyes and Hartford (1972) identified three factors associated with poor adjustment - premorbid psychopathology, prior physical problems and burns covering more that 30% of the body. The most frequent psychological problems identified are delirium and fear of death when survival is at threat (Anderson, 1974; Noyes, 1971; Weisz, 1967) and fears of deformity, handicap, disfigurement and rejection when survival is more probable (Wernick, 1983).

Depression is reported to be the most common result of a major burn. In a retrospective study of 51 patients, Chang and Herzog (1980) found 75% of their patients were more depressed than before their burns. White (1982) found that over a third of 75 patients studied were depressed, a substantial number having some suicidal ideation. Yet little attention is given by the researchers to the burn etiology. The reader is left questioning how much is caused by the burn insult or how much is the effect?

Several studies challenged the incidence of psychopathology and its correlation to the burn wound. Kolman (1983), in a critical review of the literature of the incidence of psychopathology in burned adult patients identifies conflicting evidence in relation to which patients are most at risk of psychiatric disorders. The high reported incidence of such disorders is masked by the increased incidence of pre-morbid psychopathology, especially organic brain syndromes, anti-social personality disorder and alcoholic problems among patients prior to admission to the burn unit. Delirium is seen particularly in the older and severely burned patient. Depression occurs only in substantial minority of patients and may be associated with family stress and lack of social support. The Klein and Charlton (1980) study demonstrated that patients exhibit a significantly high frequency of psychological and somatic well-being, even in the context of intense, typically painful treatment procedures, and that differences in well-being behaviors were not related to total body surface and burned site of burn or days since onset. A small sample size (N - 16) and a questionable objective "coding" system of 5 minute behavioral observations, however, makes such results suspect.

Little research has been conducted on the psychological responses of burn patients to the treatment they receive. The research that does exist is primarily anecdotal or descriptive in nature (Wernick, 1983). When considering the stressful nature of burn trauma treatment and the psychological adjustment required, research into nursing interventions aimed at reducing distress levels is greatly needed. Kavanaugh (1983) studied the effect of a psychological intervention that involved assisting the patient (age 2-12) to focus his attention on dressing changes to increase its predictability of each sequential step. The child was encouraged to take an active part in the dressing change to increase its controllability. When compared to the standard approach of distraction and support of the patient during a nurse-controlled dressing change significant reduction of anxiety, depression and greater patient cooperation was associated with the experimental treatment.

In conclusion, a review of the literature demonstrates a lack of empirical investigation on the effects of nursing interventions designed to reduce distress levels of burn patients. The effectiveness of psychological preparation has been supported in episodes of stress that are painful or of long duration. Supportive care given during the events of admission, surgical intervention and new procedures has shown its utility in bolstering social support and assisting in determining the meaning of distress producing events. Lazarus' Transactional Model of Stress provides a working framework from which the nursing intervention of psychological preparation and individualized supportive care can be studied for its effectiveness in reducing the ambiguity of the stimulus cue and bolstering social support resources, as reflected in measures of distress response, coping processes and social support perception. This study of a particular nursing intervention designed to reduce levels of distress of in-hospital burn patients was an attempt to fill the knowledge gap that is evident in the nursing literature.

CHAPTER III

Methods and Procedures

This investigation was conducted in a large urban teaching hospital in western Canada. The hospital serves as the major burn centre for the central and northern part of one western province and admits burn victims to one of three areas: a 7 bed Intensive Care Burn Unit; a 20 bed Medical-surgical Isolation Unit; or a 16 bed Plastics Surgical Unit. The decision about which unit a burn victim is admitted to is determined by the severity of the burn injury and the bed availability of the Intensive Care Burn Unit. Data were collected over a fifteen-month period.

Sample

A sample size of 60 had been designated as desirable at the onset of the study. The unpredicted decline in admissions of burn victims during the data collection period of the study prevented selection of the target sample size. It was recognized that the use of a much lower sample size decreased the power of the statistical tests and lowered confidence in the results. The first 34 patients admitted to any of the three services described who met the criteria for selection and agreed to participate were chosen for the sample. All subjects selected for this study met the following criteria:

1. 16 years of age and older;
2. fluent in English;
3. conscious, not requiring ventilatory support, and oriented to time place and person;
4. burn injuries larger than 5% of the total body surface area and less than 65%, as determined by the Rule of 9's;

5. burn injuries requiring the surgical intervention of excision and grafting;
6. burn injuries requiring protective isolation technique; and
7. not requiring surgery upon admission and not having other serious complicating diagnoses. Subjects with extensive burns requiring frequent or heavy sedation or whose injuries posed a life-threatening situation were excluded from the sample.

Design

A pretest-posttest control group design was used for this study. The experimental design controls confounding extraneous variables relevant to internal validity (Campbell and Stanley, 1963). Subjects were randomly assigned to groups by means of a table of random numbers to one of three experimental groups. The experimental treatment conditions were then randomly assigned to the three treatment groups. Pre and post levels of distress were measured on one occasion of each event of tubbing, surgical excision and grafting, and post-grafting tubbing. Measures of coping processes were obtained upon completion of each event. Measures of social support and satisfaction with such support were obtained on the third day of hospitalization and upon completion of the third post-grafting tubbing.

The initial operative procedure of excision and grafting and the initial tubbing post-excision and grafting were chosen as the occasions for testing the treatment effects. Disproportionate levels of distress have been reported in the nursing literature as being present in patients confronted with potential physical dangers of stressful medical procedures. Personal clinical observation and interviews with the ex-burn patients substantiated selection of the events as occasions of major distress. Although recognizing a similar response in burn patients confronted with the initial tubbing post-burn injury, the occasion of the second scheduled tubbing was selected. Confounding variables such as the distress producing effects of hospital admission as an event in itself and the shock response associated with a burn insult prevented consideration of the occasion of first tubbing.

Ethical Considerations

Subjects who met the criteria for selection into the sample were approached by the researcher on the day prior to the second scheduled tubbing. A description of nature, intent, demands and risks of the study were given at that time, and an opportunity to ask questions of the investigator was offered. It was stressed that participation was voluntary and that the patient could withdraw at any time from the study without affecting the relationship with the institution, or care from physician, nurses or other health professionals. Confidentiality and anonymity were promised and ensured by individual assignment of a subject number.

The treatment conditions assured protection of the subject. Each event was required for the care of the burn injury and initiated by the orders of the physician in charge. The care and dressings of the burn wound and/or graft were in accordance with the nursing care protocol of the institution. The sensory and procedural component of the psychological preparation treatment was developed from reported sensations experienced and expressed needs for preparation requested by 10 burn patients who had undergone the events within the past year. The experimental treatment conditions were an addition to the regular nursing care presently practiced in the institution; each subject received sensory and procedural preparation or sensory, procedural preparation and supportive care in addition to the present nursing practice. Subjects were not placed at risk for physical or psychological harm.

Taped Sensory and Procedural Preparation

The sensory and procedural preparation component was developed by the researcher from taped interviews with 10 burn patients who had undergone tubbings, surgical excision and grafting, and post-grafting tubbings at the study hospital within the previous 12 months. Subjects were contacted during Burn Clinic - an outpatient program that allowed for follow-up examination of ex-patients by members of the Burn Team. Subjects were played a tape consisting of each procedural step of the three events, developed by the researcher and evaluated for content by members of the burn team - two physiotherapists, a senior burn nurse and the clinical instructor. The tape was replayed, and subjects encouraged to stop the tape when they recalled sensations they had experienced and were ready to describe them. The typical sensations experienced by all ten subjects during the procedural steps of each event were then condensed into a 10-12 minute tape presentation. The three taped presentations were administered to 4 in-hospital burn patients undergoing each event to evaluate the sensory and procedural content. Changes in content were not required. (See Appendix for transcripts.)

Protocol

Each subject admitted into the sample was randomly assigned to one of three experimental treatment groups as depicted in Figure 3. The control group treatment (Treatment Condition A) consisted of regular nursing care. One nurse, assigned by the team leader to the subject, was responsible for the care administered to the subject during an 8 or 12 hour period, from 0700 to 1500 hours or 0700 to 1900 hours. Each event occurred during the 12-hour period, with tubbings and post-grafting tubbings occurring between 0700 and 1200 hours.

Treatment Condition B, psychological preparation, consisted of a 10-12 minute tape recording of the typical sensations experienced during the procedural steps of each event. The nursing staff were unaware of which treatment group each subject was assigned to and unaware of the exact content of the audiotapes. Headphones, worn by the patient during administration of the tapes, allowed for confidentiality of the information presented and privacy. The tape recordings ensured consistency of style and of information presented. Since the experimenter's presence to answer questions or concerns is vital, complete automation of the approach was not possible. Consistency in presentation of content, however, can operate to eliminate some of the experimenter bias that threatens external validity (Christensen, 1980). The recording was administered to the subject by the investigator in the privacy of the subject's isolation room 45 minutes prior to each event. Upon completion of the recorded presentation, the researcher was available to answer any questions or concerns. The staff nurse assigned to the subject took over the responsibilities of nursing care prior to, during and after each occasion.

Treatment Condition C, psychological preparation and individualized supportive care, was identical to Treatment Condition B, with one exception. Upon completion of the tape, the researcher was

FIGURE 3. Pretest-Posttest Control Group Experimental Design

	Preresponse Measure	Treatment	Postresponse Measure	Postresponse Measure
Experimental Groups				
Treatment Condition A N = 10 (Regular Nursing Care, Control) R	Y^1		Y^2	Z
Treatment Condition B N = 10 (Psychological Preparation)	Y	p.p.*	Y	Z
		R		
Treatment Condition C N = 10 (Psychological Preparation and Individualized Supportive Care)	Y	p.p. + ISC	Y	Z

(Adapted from Christensen, L., 1980. *Experimental Methodology*, Boston: Allyn and Bacon, p. 172.)

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p.p.* psychological preparation

p.p. + ISC psychological preparation and individual supportive care

Y^1 pretest Profile of Moods Questionnaire

R random assignment of subject to group and group to treatment

Y^2 posttest Profile of Moods Questionnaire

Z posttest Ways of Coping Questionnaire

responsible for providing supportive care during and after each event. The end point for Event I (tubbing) and Event III (post grafting tubbing) was upon completion of the wound and/or graft dressings. Event II (surgical excision and grafting) was ended when the subject was conscious, oriented to time, place and person and not experiencing moderate or severe pain.

INSTRUMENTS

Measurement of Distress Levels

Levels of distress were measured by the Profile of Moods States (McNair, Lorr & Droppleman, 1981). The instrument consists of 65 5-point adjective rating scales which are factored into six mood scores: tension-anxiety; depression-dejection; anger-hostility; vigor-activity; fatigue-inertia; confusion-bewilderment. It was designed to meet the need for a rapid method of identifying and assessing transient and fluctuating affective states (Buros, 1978). McNair, Lorr and Droppleman (1971) report some empirical evidence for predictive and construct validity based on several studies investigating its factorial validity in large samples of psychiatric outpatients and college students (Eichman, 1978). The instrument has been used in brief psychotherapy trials, controlled outpatient drug trials and studies of response to emotion inducing conditions (Wickowicz, 1978). Concurrent validity has been claimed on the basis of determining statistically significant correlations between the instrument's mood scales and a number of other affective measures (McNair, Lorr & Droppleman, 1981). Internal consistency reliabilities for the scales have been reported as ranging from .84 to .95 (McNair, Lorr & Droppleman, 1981). The adequacy of the instrument in measuring transient affective states during in-hospital events has been reported in the literature. For example, it has been applied to samples consisting of patients with a variety of medical and surgical illnesses and life-threatening diseases (McCorkle, R. & Benoliel, J., 1982; Graydon, J, 1984).

Measurement of Coping Strategies

Coping strategies were measured by the revised Ways of Coping Scale (Folkman and Lazarus, 1983) which is a 66 item checklist devised to elicit a wide range of thoughts and actions or strategies that individuals use to deal with a specific stressful encounter. The instrument was designed not to assess coping styles or traits but "rather to look for consistency across occasions by administering the measure repeatedly and then doing intraindividual analysis" (Lazarus, 1983).

In order to assess construct validity of the Ways of Coping Scale, Folkman and Lazarus used factor analysis with oblique rotation, for data collected from 75 married couples who completed the questionnaire five times. Based on the factor analysis results, they identified eight coping scales, accounting for 46.2% of the variance - confrontive coping; distancing; self-controlling; seeking social support; accepting responsibility; escape-avoidance; planful problem solving; and positive reappraisal. (See Appendix for alphas and factor loadings.) No evidence of the use of the instrument to study coping processes selected by in-hospital patients across events that evoke increasing levels of distress has been found in the literature.

Measurement of Social Support and Satisfaction

Sources of social support, types of support and satisfaction with such support were obtained by the Social Support Questionnaire (Sarason, 1981). Construct validity was suggested by a statistically significant positive correlation between the scales and reported positive life change and a negative correlation with reported depression level. Test-retest reliability over a three week interval was reported to be .80.

Data Collection

Demographic data including age and sex; burn-related information regarding site, degree and cause of the burn injury; previous hospitalizations; and the presence of perceived social support were documented from each subject's chart. Prior to initiating the study, a small-scale trial administration to assess the inconsistencies of performance of research protocols and instruments was done with three in-hospital burn patients. Difficulties with proposed protocols for administering data collection instruments in the study were identified in pretests and the protocols adjusted as appropriate.

The Profile of Moods States instrument was administered 45 minutes prior to the commencement of events I to III by a data collector, in the privacy of the subject's hospital room. It was re-administered post-event when the end points of events I to III were reached. The Ways of Coping Scale was administered upon completion of the Profile of Moods State, post-event. Each instrument required 10-15 minutes to complete. To maintain consistency of application, the questions were read out loud by the collector in a standardized interview format. A further reason for interviewer-administered as opposed to pencil and paper tests was that subjects with burn injuries to the hands or arms were limited by bulky dressings and splints and unable to hold a pencil.

The Social Support Questionnaire was administered by the data collector in the afternoon of the third day of hospitalization and re-administered in the afternoon of the third post-grafting tubbing. Perceived social support networks would be firmly established by the third day of the hospital stay. The retest monitored changes in the type of support utilized and determined the effect of supportive care.

The instruments were administered to subjects by a data collector. Every attempt was made during the study to ensure that the collector was "blind" as to which group the subject was assigned. The collector was a registered nurse, not employed in any of the three settings and whose background included the care of physically traumatized patients. She was further familiar with the isolation precautions of the institution and with the changes in physical appearance exhibited by burn victims. The researcher reviewed the interview technique to be employed by the collector prior to each testing during the pilot project and observed for discrepancies during the test administration.

Data Analysis

The data generated from the study were analyzed using the following statistical techniques. First, demographic variables selected for the study were presented in frequencies and percentages. Next, analysis of variance was done on the pretest levels of distress. The purpose of the pretesting was to determine if subjects were initially comparable on the variable of distress. Although random assignment provided the greatest assurance possible of comparability of subjects, failures in pretreatment equivalence could occur. With a small sample size and withdrawals occurring between events, the study was vulnerable to systematic variation of the relevant antecedent variable of distress. The comparison of group pretest mean scores would provide evidence of the effect of randomization (Christensen, 1980).

To determine the effect of treatment, analysis of variance was conducted on posttest measures of distress and the coping processes selected. The analysis of variance procedure essentially compared the means of all the groups to determine if any one differed from the others to a degree greater than that expected to occur by chance alone (Elenbaas, 1983). In addition, rankings of posttest levels of distress (mean scores and subscales) and posttest coping processes selected (mean scores and subscales) were done to detect any trend in direction of the measurements.

As mentioned above, this study was vulnerable, because of small sample size, to sources of variation due to individual differences. In smaller groups, one could expect the means of the groups to vary on the measure of initial distress. Thus, analysis of covariance was conducted on posttest measures of distress with the pretest measure of distress as the covariate. The analysis of covariance was applicable to this experiment in which a source of variation, which was not possible to equalize between the various experimental groups prior to the administration of treatments, was measured. By statistically isolating this source of variation and subtracting it from the sum of squares within groups, the mean square used as an error term in the test of significance could be substantially reduced. To this extent, the analysis would make possible the detection of smaller differences between the experimental treatments, thus increasing the efficiency of the experiment (Edwards, 1950).

Finally, the Pearson product moment correlation procedure was used to determine the degree to which distress and coping processes would vary correspondingly. A high degree of correlation would not show a cause-and-effect relationship, but only the probability that a Type I error had occurred and that the null hypothesis (no correlation) had been falsely rejected (Elenbaas, 1983).

The level of significance for this study was set a priori at alpha = 0.05. Thus, the probability with which sampling error would lead to a wrong decision to reject the null hypothesis was five percent.

CHAPTER IV

Results and Discussion

Characteristics of the Sample

A total of 262 burn patients were admitted to the hospital where the study was conducted during the data collection phase of fifteen months. Eighty-three percent of the subjects did not meet the Selection Criteria. Of the subjects approached with the request to participate in the study, five refused, citing an inability or unwillingness to express their feelings (Table 1). Five subjects agreed to participate but were unable to complete either the pre- or post-tubbing questionnaire due to disorientation or confusion, an inability to concentrate or, as in one case, overwhelming anxiety arising from extreme financial worries (Table 2).

Thirty-four subjects met the study's admission criteria and agreed to participate. Ten subjects were assigned to the control group (Treatment Condition A), 13 subjects to the experimental group receiving the audiotape (Treatment Condition B), and 11 subjects to the experimental group receiving the audiotape and individualized supportive care (Treatment Condition C). There were 9 dropouts. Seven subjects had burns which healed and therefore did not require excision and grafting. One subject became too ill to answer the pretest prior to grafting and eventually died (Table 3). Another subject was dropped when the first tubbing post-grafting was done a day early. A total of 25 subjects completed the study. There were 7 subjects in the control group, 9 subjects in Treatment Condition B and 9 subjects in Treatment Condition C. Dropouts could be expected to likewise occur randomly from the groups, however, as noted above, the small sample

Table 1

Characteristics of Subjects Refusing to Participate

Gender	Age	% Burn	B face	B hand	B other	Marital
F	45	10	Y	N	N	N
F	20	10	Y	N	Y	N
M	50	15	Y	Y	N	Y
M	40	25	Y	Y	Y	Y
M	16	10	Y	N	Y	N

Y - yes N - no

B face - burns to face

B hand - burns to hand(s)

B other - burns to other parts

Table 2

Characteristics of Withdrawals After Randomization

Gender	Age	% Burn	B face	B hand	B other	Marital	Group
M	45	10	Y	Y	N	Y	A
M	50	20	N	N	Y	N	B
M	45	10	Y	Y	N	Y	B
M	22	55	Y	Y	Y	Y	B
M	25	55	Y	Y	Y	N	C

Y - yes N - no

B face - burns to face

B hand - burns to hand(s)

B other - burns to other parts

A - Control

B - Psychological preparation

C - Psychological preparation and individualized supportive care

Table 3

Characteristics of Withdrawals After Event I

Gender	Age	% Burn	B face	B hand	B other	Marital	Group
M	37	10	Y	N	Y	N	A
M	33	25	Y	N	Y	Y	A
M	27	15	Y	Y	Y	N	A
M	37	8	Y	Y	N	Y	B
M	26	5	Y	Y	N	N	B
F*	32	15	Y	Y	Y	Y	B
M	19	8	Y	Y	N	Y	C
M	21	14	N	N	Y	Y	C

*Withdrawn due to severity of illness. Remaining subjects healed without requiring grafting.

Y - yes N - no

B face - burns to face

B hand - burns to hand(s)

B other - burns to other parts

A - Control

B - Psychological preparation

C - Psychological preparation and individualized supportive care size was a major problem in this study.

There was a proportionately larger number of males (31) than females (3) in the study group. The mean age of subjects was 30.1 years of age with a median of 27 years of age (range 16-56). The mean total body surface area burned for all subjects was 19.7% with a median of 18% (range 5-55%); 11 of the subjects suffered 10% or less as opposed to 12 subjects who had 25% or greater. The areas burned varied. Most subjects were burned on the hands (25) with a significant number experiencing burns to the trunk or extremeties (29). The frequency of subjects experiencing facial burns matched that of hand burns (25). Nine subjects did not suffer from facial burns.

A total of 20 subjects (58.8%) were or had been married and 14 subjects (41.2%) were single or never been married. The variation in extent and location of burns meant that the length of hospital stay would vary. The mean length of hospital stay was 29.9 days with a median of 24 days and a wide range (11-102 days). Characteristics of the sample are shown in Table 4. Characteristics of the treatment groups across Events I to III are contained in Tables 5 to 7.

Data Analysis

Pre-Test Levels of Distress

Analysis of variance was conducted on the pretest levels of distress to ensure that subjects were initially comparable on the relevant variable of distress. A summary of the analyses is given in Table 8. Although there was some variation in the mean values of the various groups on pretest distress, this was not significant, as the mean square between the groups was relatively smaller than that within groups. Since the subjects had been assigned at random to the three

Table 4

Characteristics of Total Population - Frequencies and Percentages

Variable	Frequencies	Percentages
Category*		
Treatment Condition A	10	29.4%
Treatment Condition B	13	38.2%
Treatment Condition C	11	32.4%
Gender		
Male	31	91.2%
Female	3	8.8%
Burn Site		
B face		
Yes	25	73.5%
No	9	26.5%
B hand		
Yes	25	73.5%
No	9	26.5%
B other		
Yes	29	85.3%
No	5	14.7%
Marital Status		
Never	14	41.2%
Married	20	58.8%

*Treatment Condition A - Control; Treatment Condition B - Psychological preparation; Treatment Condition C - Psychological preparation and individualized supportive care

Table 5

Characteristics of Sample by Groups - Event I Tubbing

Variable	Treatment Condition A	Treatment Condition B	Treatment Condition C
Gender			
Male	10	10	11
Female	0	3	0
Age			
Range	18-56	16-42	16-43
Mean	35.4	32.6	25.4
Burn Percent			
Range	6-30	5-55	7-25
Mean	19.6	24.8	14.7
Burn Site			
B face			
Yes	4	13	7
No	6	0	4
B hand			
Yes	6	12	8
No	4	1	3
B other			
Yes	10	11	8
No	0	2	3
Marital Status			
Never	5	4	3
Married	5	9	8
Length of Hospital Stay			
Range	11-54	16-102	13-32
Mean	28.8	38.5	20.1

Treatment Condition A - Control; Treatment Condition B - Psychological preparation; Treatment Condition C - Psychological preparation and individualized supportive care.

Table 6

Characteristics of Sample by Groups - Event II Excision and Grafting

Variable	Treatment Condition A	Treatment Condition B	Treatment Condition C
Gender			
Male	7	8	9
Female	0	2	0
Age			
Range	18-56	16-42	16-43
Mean	36.7	32.2	26.6
Burn Percent			
Range	6-30	8-55	7-25
Mean	21.0	26.9	15.6
Burn Site			
B face			
Yes	1	10	6
No	6	0	3
B hand			
Yes	5	9	7
No	2	1	2
B other			
Yes	7	10	7
No	0	0	2
Marital Status			
Never	3	3	3
Married	4	7	6
Length of Hospital Stay			
Range	20-54	21-102	13-32
Mean	34.0	40.6	21.6

Table 7

Characteristics of Sample by Groups - Event III Post-Grafting Tubbing

Variable	Treatment Condition A	Treatment Condition B	Treatment Condition C
Gender			
Male	7	7	9
Female	0	2	0
Age			
Range	18-56	16-42	16-43
Mean	36.7	28.7	26.6
Burn Percent			
Range	6-30	8-55	7-25
Mean	21.0	29.0	15.6
Burn Site			
B face			
Yes	1	9	6
No	6	0	3
B hand			
Yes	5	8	7
No	2	1	2
B other			
Yes	7	9	7
No	0	0	2
Marital Status			
Never	3	3	3
Married	4	6	6
Length of Hospital Stay			
Range	20-54	21-106	13-32
Mean	34.0	42.2	21.6

groups and had not as yet been subjected to the treatment conditions, it can be assumed that the measures of distress were obtained under the same conditions. Thus, nothing but random variation was expected between the measures. In addition, the withdrawal of eight subjects between Event I (tubbing) and Event II (excision and grafting) appeared to occur randomly - subjects continued to be initially comparable on the variable of pretest distress until the conclusion of the study.

Post-Test Levels of Distress

Event I (tubbing)

Analysis of variance. To test the effect of treatment on level of distress, an analysis of variance was conducted. There were no significant differences between the means of the three groups on the posttest scores for Event I.

Hypothesis I stated that subjects who received psychological preparation prior to tubbing and supportive care during and after the event would manifest less distress than those who received psychological preparation only and those who did not receive the preparation. There was no evidence to support Hypothesis I. However, it was recognized that a small sample size would not allow for detection of small variations, due to low power of the statistical techniques used. Thus a ranking of posttest group levels of distress (scores and subscales) was done to ascertain any trends in measurements.

Directional trends. The order of post-treatment levels of distress for Event I (tubbing) indicated that subjects who received psychological preparation and individualized supportive care demonstrated the least level of distress ($\bar{X}$ = 40.18). Subjects who

Table 8

Event I (Tubbing) Analysis of Variance - Pretest POMS

Source of Variance	SS	df	Mean Square	F	P
Between Groups	171.67	2	85.84	0.07	0.93
Within Groups	37193.27	31	1199.78		
Total	37364.94	33	1132.27		

Event II (Excision and Grafting) Analysis of Variance - Pretest POMS

Source of Variance	SS	df	Mean Square	F	P
Between Groups	2669.05	2	1334.52	0.93	0.41
Within Groups	33101.92	23	1439.21		
Total	35770.96	25	1430.84		

Event III (Post Grafting Tubbing) Analysis of Variance - Pretest POMS

Source of Variance	SS	df	Mean Square	F	P
Between Groups	146.67	2	73.34	0.08	0.92
Within Groups	19571.97	22	889.64		
Total	19718.64	24	821.61		

POMS - Profile of Moods Scale

Table 9

Means and Analysis of Variances - Pretest and Posttest Levels of Distress Events I-III

	Treatment Condition A	Treatment Condition B	Treatment Condition C	ANOVA
Event I - Tubbing	n = 10	n = 13	n = 11	
Pre-POMS	43.40	45.54	40.18	*
Post-POMS	45.20	50.08	40.18	*
Gain	1.80	4.54	0.0	*
Post-POMS Subscales				
tension-anxiety	10.50	12.46	10.36	*
depression-dejection	13.40	12.38	9.45	*
anger-hostility	11.30	10.23	7.45	*
vigor	-9.80	-9.00	-7.45	*
fatigue	11.10	13.54	11.36	*
confusion	8.70	10.46	9.00	*
Event II - Surgical Excision and Grafting	n = 7	n = 10	n = 9	
Pre-POMS	25.71	47.80	28.11	*
Post-POMS	29.57	46.60	30.78	*
Gain	3.86	-1.20	2.67	*
Post-POMS Subscales				
tension-anxiety	9.71	10.90	8.89	*
depression-dejection	10.43	14.00	9.11	*
anger-hostility	7.43	11.30	8.33	*
vigor	-13.14	-9.50	-10.00	*
fatigue	7.57	11.60	8.22	*
confusion	7.14	9.90	7.33	*
Event III - Post Grafting Tubbing	n = 7	n = 9	n = 9	
Pre-POMS	30.14	36.11	34.56	*
Post-POMS	26.57	45.56	17.89	*
Gain	-3.57	9.44	-16.67	**
Post-POMS Subscales				
tension-anxiety	9.43	12.89	5.67	*
depression-dejection	9.29	11.78	5.33	*
anger-hostility	7.86	11.22	3.78	*
vigor	-13.43	-10.33	-11.00	*
fatigue	7.43	11.89	8.00	*
confusion	6.00	8.11	6.11	*

POMS = level of distress measured by Profile of Moods Questionnaire
* Nonsignificant
** Significant at α 0.05 level

received psychological preparation alone demonstrated the highest level of distress ($\bar{X}$ - 50.08), with a treatment effect reflected in a gain of 4.54. A similar gain was noted in the control group (1.80, $\bar{X}$ - 45.20) (Table 9).

A comparison of Profile of Moods subscales revealed that subjects receiving psychological preparation alone demonstrated higher levels of tension-anxiety, depression, anger, fatigue and confusion post treatment in Event I. Subjects receiving psychological preparation and individualized supportive care demonstrated less tension-anxiety and depression post treatment than the other groups. Subjects in the control group demonstrated less confusion and fatigue post Event (Table 9).

Although the differences in group means were not significant to support Hypothesis I, a directional trend in post-treatment distress means for Event I (tubbing) was as anticipated by the hypothesis. Subjects who received sensory and procedural preparation (psychological preparation) demonstrated higher distress levels than subjects in either of the treatment groups. Profile of Moods subscales indicated higher levels of tension-anxiety, depression-dejection, fatigue and confusion, contributing to an overall increase in distress. Lower levels of distress were observed in subjects in the control group. The influence of combining psychological preparation with individualized supportive care was suggested in post-treatment distress means. Subjects receiving the combined intervention experienced the lower level of distress post-event in the tubbing procedure. Lazarus' conceptual framework suggested that psychological preparation in the form of sensory and procedural preparation prior to stressful events could reduce the degree of the stimulus cue by describing the imminence and degree of harm; frequency, duration and chronocity of the harmful encounter; and the nature of the harm. Provision of the tapes alone appeared to unintentionally stimulate tension, anxiety, confusion, anger, thereby reducing the stress tolerance. The results suggested a failure of the intervention in reducing distress. Failures in the past have occurred when the stress event was of short duration as encountered in Finesilver's (1979) study of patients undergoing cardiac catheterization. Discrepancies between expected and experienced sensations have also unintentionally stimulated tension and anxiety. Yet subjects in Treatment Group C (psychological preparation and individualized supportive care) demonstrated less distress post-intervention. Perhaps the provision of sensory and procedural preparation alone shaped the meaning of the event as less threatening, yet left the subject uncertain as to which coping processes to set into motion. It is important to note that primary and secondary appraisals are interdependent. Many coping strategies have an appraisal function in that they shape the meaning of the event. With the self lacking in resources to control or master a potentially threatening situation, distress will result.

Event II (surgical excision and grafting)

Analysis of variance. As with Event I (tubbing), there were no significant differences between the means of the three groups on the posttest scores for Event II.

Hypothesis II stated that subjects who received psychological preparation prior to excision and grafting as well as supportive care prior to and after the event would manifest less distress than those who received psychological preparation only and those who did not receive the preparation. There was no evidence to support Hypothesis II. As with Event I, a ranking of posttest group levels of distress (scores and subscales) was done to detect a trend in measurements.

Directional trends. The order of post-treatment levels of distress for Event II indicated that subjects who received psychological preparation alone again demonstrated the highest level of distress ($\overline{X}$ = 46.60). Control group subjects demonstrated the least level of distress ($\overline{X}$ = 29.57), closely followed by subjects who received psychological preparation and individualized supportive care ($\overline{X}$ = 30.78) (Table 9).

As with Event I (tubbing), a comparison of Profile of Moods subscales revealed that subjects receiving psychological preparation alone demonstrated higher levels of tension-anxiety, depression, anger, fatigue and confusion post treatment in Event II. Subjects receiving psychological preparation and individualized supportive care demonstrated less tension-anxiety and depression post treatment that the other groups. Subjects in the control group demonstrated less confusion and fatigue post Event (Table 9).

The differences in group means were not statistically significant to support Hypothesis II. Contrary to Event I (tubbing), a directional trend in post-treatment distress means for Event II (excision and grafting) was not as anticipated by the Hypothesis. Provision of the tapes alone again appeared to unintentionally stimulate tension, anxiety, and confusion thereby reducing stress tolerance. The effects of the additional of a significant other is suggested and reflected in lower levels of distress. However, contrary to Event II (tubbing), the lowest levels of distress were experienced by the control group.

Little evidence was suggested in support of the effectiveness of Treatment Condition C (psychological preparation and individualized Support Care) during Event II. Wilson-Barnett's (1984) review of interventions to alleviate patients' stress offered a possible explanation for this ineffectiveness. Because arousal and anxiety levels varied over the surgical period, it was suggested that information would be more useful to subjects when they were aroused and attentive and not at peak anxiety times. The thinking time for subjects given a procedural account of the event was vital in Janis' (1958) "work of worrying" concept. Janis had postulated that the provision of accurate information about the impending stress leads to anticipatory fear and the work of worrying. In turn, this would lead to the development of accurate expectations. More practically, it would give subjects the additional opportunity to ask questions. The presentation of the informational tape shortly before Event II (surgical excision and grafting) may have hindered anticipatory coping. In turn, the beneficial effects of the intervention may have been influenced by peak anxiety levels. Presentation of the material the day before surgery may be more feasible and effective.

Event III (post-grafting tubbing)

Analysis of variance. The differences between the means of the three groups on the posttest levels of distress were statistically significant for Event III.

Analysis of covariance. When the pretest level of distress was controlled, a statistically significant difference between the posttest levels of distress of the groups was observed (Table 11).

The analysis addressed whether or not significant differences existed after the effects of individual differences on pretest distress had been accounted for. Table 11 illustrated that the regression coefficient was significantly different from 0 at $\alpha = 0.05$ level suggesting the influence of pretest on posttest. The technique made possible the detection of smaller differences between the experimental conditions.

A comparison of the group means revealed that the treatment group that received psychological preparation and individualized supportive care experienced less distress ($\overline{X} = 17.89$) than the control group ($\overline{X} = 26.57$) or the treatment group that received psychological preparation alone ($\overline{X} = 45.56$). A comparison of gain scores between the groups revealed that the groups receiving psychological preparation and individualized supportive care demonstrated a decrease in the level of distress (-16.67) post treatment. An additional decrease in distress was noted in the control group (-3.57). The treatment group that received psychological preparation alone demonstrated an increase in distress (+9.44) post treatment (Table 9).

Directional trends. Significant differences between the group means of the Profile of Moods Subscales for Event III were observed (Table 9). Levels of tension-anxiety and anger-hostility were significantly less in the group receiving psychological preparation and individualized nursing care. Subjects receiving psychological preparation alone demonstrated the highest levels of tension-anxiety and anger-hostility, as well as depression, fatigue, confusion and less vigor.

Hypothesis III stated that subjects who received Treatment Condition C (psychological preparation prior to tubbing following excision and grating as well as supportive care during and after the event) would manifest less distress than those who received Treatment Condition B (psychological preparation only) and those who received Treatment Condition A (regular nursing care). Results appeared to support Hypothesis III. The differences between posttest levels of distress of the groups were statistically significant. The treatment group that received psychological preparation and individualized supportive care experienced significantly less distress than the control group of the treatment group that received psychological preparation alone. Levels of tension-anxiety and anger-hostility were significantly less in the group receiving psychological preparation demonstrated the highest distress, significantly gaining in post-treatment distress levels. Subjects demonstrated the highest levels of tension-anxiety and anger-hostility, as well as depression, fatigue, confusion and less vigor.

Treatment Condition B (sensory and procedural preparation) did not appear to diminish levels of distress. By the addition of a significant other during the unfolding of the specific event of post grafting tubbing (Treatment Condition C), distress levels were reduced and stress tolerance enhanced. The effect of providing additional information or reinforcing expected sensations, supporting the patient's desire to talk about fears and facilitating interaction with the appropriate burn unit's member was reflected in post-treatment distress reduction. The treatment effect suggested a reduction in the degree of the stimulus cue and a bolstering of social support, thereby assisting cognitive control and purposeful selection of coping strategies. The effectiveness of the interaction was reflected in significant reduction of negatively toned emotions.

The event of post grafting tubbing was identified in taped interviews with ten ex-burn patients as perhaps the most distressing procedure encountered during the in-hospital stay. Bulky dressings and painful donor sites restricted ambulation and movement for three days prior to the event. The appearance of the graft was disturbing to many.

> I thought they looked terrible. I thought my hands looked just awful. The next day the doctor came in and looked at them and said "Well you are going to have virtually normal looking hands." Of course I didn't think he had a clue what he was talking about. It takes a long time (Interview, July, 1985).

Of particular concern was the diminished range of motion in the grafted limb.

> I wasn't prepared... I was kind of scared, I didn't think I'd have just as much as before. Afraid I might not be able to grab things and stuff. Didn't know whether I'd be able to use my hands properly and all that. All those worries! (Interview, June, 1985)

The study was aimed at monitoring effectiveness of an intervention across events that evoke increasing levels of distress. By the third event, subjects had experienced a bombardment of procedures - daily tubbing, surgical excision and grafting, the painful removal of donor dressings. Pre-treatment levels of distress were approaching levels experienced early in hospitalization. Perhaps most importantly was the developing influence of the "significant other." Subjects in the treatment group receiving psychological preparation and individualized supportive care had experienced the presence of the nurse researcher on two previous occasions. The intervention attempted to provide individualized attention to the subject, to explore and clarify feelings and concerns and to provide accurate information and appropriate reassurance. The effects of the intervention during the third event may be attributable, in part, to the establishment of a warm, trusting relationship between subject and nurse researcher. The question then arises whether the post-treatment reduction in distress in the group receiving psychological preparation and individualized supportive care was primarily due to the supportive relationship.

To answer the question, an additional treatment condition could be added to the original design. Because of the difficulties in achieving a sufficient sample size for a three group design, the lack of an additional treatment group should be viewed as a limiting factor in the study and a suggestion for future research.

Selection of Coping Processes - Events I-III

Post-test Problem Focused Coping Processes

To determine the effect of treatment on the selection of problem-focused coping processes analyses of variances were conducted for Events I-III. There were no significant differences between the groups in selection of problem-focused processes (Table 12). When the pretest level of distress was controlled (Analysis of Covariance), there were no significant differences between the groups in selection noted. Analysis of variance between the group means of the four problem-focused subscales demonstrated no significant differences during Event II (excision and grafting) (Table 13). A comparison of groups means demonstrated that subjects in the control group selected the process of confrontive coping most often ($\overline{X} = 7.14$) while subjects receiving psychological preparation and individualized supportive care least often ($\overline{X} = 3.11$). A difference between the groups in selection of problem solving was also suggested. The comparison of group means revealed that the control group ($\overline{X} = 9.57$) selected the process more often than either of the treatment groups.

Post-test Emotion Focused Coping Processes

To determine the effect of treatment on the selection of emotion-focused coping processes analyses of variances were conducted for Events I-III. The analyses demonstrated no significant difference between the groups in selection of emotion-focused processes (Table 12). A comparison of the group means revealed that the control group selected more emotion-focused coping processes than either of the treatment groups. The treatment group receiving psychological preparation and individualized supportive care selected emotion-focused coping processes least often. When analysis of covariance was conducted with the pre-treatment levels of distress controlled, no significant differences between groups in section of emotion-focused processes were suggested (Table 12). To determine if differences existed between the groups on selection of individual emotion focused process, a further analysis of variance was conducted. A significant difference between the groups was demonstrated in selection of the self-controlling process (Table 14) for Events I-III. The control group consistently selected self controlling most often. The treatment group receiving psychological preparation and individualized supportive

Table 10

Event III Analysis of Variance - Post-test POMS

Source of Variance	SS	df	Mean Square	F	Significance
Between Groups	3578.22	2	1789.11	2.16	*
Within Groups	18194.83	22	827.04		
Total	21773.04	24	907.21		

POMS - Profile of Moods Scale

* Nonsignificant

** Significant at α - 0.05 level

Table 11

Event III Analysis of Covariance - Post-test POMS

Source of Variance	SS	df	Mean Square	F	P
Pre-test	10017.86	1	10017.86	24.55	**
Between Groups	3187.127	2	1593.564	3.906	**
Within Groups	8568.055	21	408.003		
Total	21773.040	24	907.210		

*Pre-test POMS as covariate

POMS - Profile of Moods Scale

Table 12

Means, Analysis of Variance and Analysis of Covariance - Problem and Emotion Focused Coping Processes Selected Events I-III

	Treatment Condition A	Treatment Condition B	Treatment Condition C	ANOVA	ANCOVA
Event I - Tubbing					
- post problem focused	31.20	29.92	23.64	*	*
- post emotion focused	31.50	26.92	19.45	*	*
Event II - Excision and Grafting					
- post problem focused	37.57	28.70	25.00	*	*
- post emotion focused	34.14	28.10	22.78	*	*
Event III - Post Grafting Tubbing					
- post problem focused	34.57	32.78	29.56	*	*
- post emotion focused	30.43	25.78	21.22	*	*

* Nonsignificant

** Significant at α - 0.05 level

Table 13

Means and Analysis of Variance - Problem Focused Coping Processes

Events I-III

	Treatment Condition A	Treatment Condition B	Treatment Condition C	ANOVA
Event I - Tubbing	n = 10	n = 13	n = 11	
- confrontive coping	6.30	4.08	3.91	*
- seeking social support	8.10	9.54	8.09	*
- problem solving	8.30	7.00	5.09	*
- positive reappraisal	8.50	9.31	6.55	*
Event II - Surgical Excision & Grafting	n = 7	n = 10	n = 9	
- confrontive coping	7.14	4.90	3.11	**
- seeking social support	9.57	10.20	9.67	
- problem solving	9.57	5.90	5.22	**
- positive reappraisal	11.29	7.70	7.00	*
Event III - Post Grafting Tubbing	n = 7	n = 9	n = 9	
- confrontive coping	7.14	7.00	4.89	*
- seeking social support	10.14	9.00	9.56	*
- problem solving	6.57	7.89	7.89	*
- positive reappraisal	10.71	8.89	7.22	*

* Nonsignificant

** Significant at $\alpha = 0.05$ level

care selected self controlling and the other emotion-focused coping processes least often (Table 14).

Correlations

Pearson product moment correlations (r) were calculated to determine relationships between coping processes and the results of the pretest levels of distress. Significant relationships noted between pretest levels of distress with problem-focused coping processes are summarized in Tables 15 and 16 and with emotion-focused coping processes in Tables 17-19.

Correlations between pretest distress and coping processes indicated the trend to select more emotion-focused coping responses in response to perceived tension, depression, anger, fatigue and confusion pre-treatment. Escape and accepting responsibility were predominant in subject selection pre-intervention for Events I to III. If emotion-focused processes were selected in response to appraisal of a stressful encounter, then subjects judged the events as requiring acceptance. Less emphasis was placed on problem-focused processes - the encounter was viewed as a situation that could not be acted upon. By the provision of information or a combination of information and supportive care, the reappraisal of the situation occurred. Credibility was added to the hypothesis that preparatory information reduced the degree of ambiguity of the stimulus cue. The presence of a consistent caregiver could bolster the subjects' perception of social support, as reflected in purposeful selection of fewer emotion-focused processes and a shift towards problem-focused coping processes. This was reflected in the results.

Table 14

Means and Analysis of Variance - Emotion Focused Coping Processes

Events I-III

	Treatment Condition A	Treatment Condition B	Treatment Condition C	ANOVA
Event I - Tubbing	n = 10	n = 13	n = 11	
- distancing	7.60	7.31	6.09	*
- self controlling	9.80	6.77	4.91	**
- accepting responsibility	5.40	5.31	2.82	*
- escape	8.70	7.54	5.64	*
Event II - Surgical Excision & Grafting	n = 7	n = 10	n = 9	
- distancing	9.71	7.40	7.11	*
- self controlling	11.14	7.10	6.11	**
- accepting responsibility	4.29	4.20	3.67	*
- escape	9.00	9.40	5.89	*
Event III - Post Grafting Tubbing	n = 7	n = 9	n = 9	
- distancing	7.71	5.89	5.00	*
- self controlling	11.43	7.33	5.89	**
- accepting responsibility	4.14	4.78	3.67	*
- escape	7.14	7.78	6.67	*

* Nonsignificant

** Significant at $\alpha = 0.05$ level

Table 15

Pearson-r Correlations - Pretest POMS with Problem Focused Coping Processes - Event I (Tubbing)

	Confronting Coping	Social Support	Problem Solving	Positive Reappraisal
Pre-POMS				
tension-anxiety	*	*	*	.45**
depression-dejection	*	.33**	*	.45**
anger-hostility	*	.31**	*	.44**
vigor	*	*	-.46**	-.30**
fatigue	*	.31**	*	*
confusion	*	*	*	.34**

POMS - Profile of Moods Scale

* Nonsignificant

** Significant at α = 0.05 level

Table 16

Pearson-r Correlations - Pretest POMS with Problem Focused Coping Processes - Event III (Post Grafting Tubbing)

	Confronting Coping	Social Support	Problem Solving	Positive Reappraisal
Pre-POMS				
tension-anxiety	*	*	.36**	*
depression-dejection	.38**	*	.36**	.42**
anger-hostility	.44**	*	*	*
vigor	-.42**	*	*	*
fatigue	*	*	*	*
confusion	.38**	*	*	*

POMS - Profile of Moods Scale

* Nonsignificant

** Significant at $\alpha = 0.05$ level

Table 17

Pearson-r Correlations - Pretest POMS with Emotion Focused Coping Processes - Event I (Tubbing)

	Distancing	Self Controlling	Accepting Responsibility	Escape
Pre-POMS				
tension-anxiety	*	*	.33**	.50**
depression-dejection	*	*	*	.64**
anger-hostility	*	*	.32**	.50**
vigor	*	-.38**	-.40**	*
fatigue	*	*	*	.36**
confusion	*	*	*	.55**

POMS - Profile of Moods Scale

* Nonsignificant

** Significant at α - 0.05 level

Table 18

Pearson-r Correlations - Pretest POMS with Emotion Focused Coping Processes - Event II (Surgical Excision and Grafting)

	Distancing	Self Controlling	Accepting Responsibility	Escape
Pre-POMS				
tension-anxiety	*	*	*	*
depression-dejection	*	*	.41**	.47**
anger-hostility	*	*	.33**	.52**
vigor	*	*	*	
fatigue	*	*	*	.36**
confusion	*	*	*	.48**

POMS - Profile of Moods Scale

* Nonsignificant

** Significant at $\alpha = 0.05$ level

Table 19

Pearson-r Correlations - Pretest POMS with Emotion Focused Coping Processes - Event III (Post Grafting Tubbing)

	Distancing	Self Controlling	Accepting Responsibility	Escape
Pre-POMS				
tension-anxiety	.46**	*	*	*
depression-dejection	.48**	.35**	.49**	.54**
anger-hostility	.53**	.38**	.47**	.59**
vigor	*	-.44**	-.36**	*
fatigue	*	*	*	.35**
confusion	*	*	*	.39**

POMS - Profile of Moods Scale

* Nonsignificant

** Significant at $\alpha = 0.05$ level

Directional Trends

Hypothesis IV stated that subjects who manifested low distress in the events of tubbing, surgical excision and grafting and tubbing following excision and grafting would select problem focused and problem-emotion focused coping processes in contrast to subjects with high distress responses who would select emotion focused coping processes.

The results did not support this hypothesis. There were no significant differences between the groups in selection of problem focused or problem-emotion focused (seeking social support) coping processes for Events I-III. In an attempt to distinguish a trend in selecting problem focused coping processes across events, a comparison of group means demonstrated that subjects in all groups used similar problem focused processes during the three events. Intra-individual analysis could reveal consistency across occasions yet the focus of this study was on the interindividual concept - subjects within a specific treatment group compared with other group subjects.

The results suggested differences between the groups in selection of emotion-focused coping processes for Event I (tubbing). Control group subjects selected more emotion-focused processes than either of the treatment groups, with the treatment group receiving psychological preparation and individualized supportive care selecting the process least often. The trend continued into Event II (surgical excision and grafting) and Event III (post-grafting tubbing). Although maintaining higher levels of distress post-treatment, subjects receiving psychological preparation selected emotion-focused coping processes less often than control subjects. Differences in group means for the emotion-focused coping process of self controlling by control subjects during Events I-III may explain the results. The process of self controlling was measured by subject responses to statements such as:

> I tried to keep my feelings to myself, kept others from knowing how bad things were. I tried to keep my feelings from interfering with other things too much. I went over in my mind what I would say or do.

By regulating emotional response, control group subjects attempted to cope with the distressing events of tubbing and excision and grafting. This result corresponds to previous studies that demonstrated the regulation of distress (emotion focused) as the predominant coping strategy utilized by in-hospital patients. This also corresponds to study results noted by Folkman and Lazarus (1980), who found that the greater the threat and threat-related emotion, the more coping efforts have to be diverted from problem-focused coping and directed toward emotion regulation (McNett, 1987). Treatment effects suggest that psychological preparation alone or combined with individual supportive care tend to cause less selection of emotion-focused coping processes.

One field study by Folkman and Lazarus (1980) reported that appraisal appeared to be a "potent predictor" of whether coping was oriented toward emotion-regulation (emotion-focused coping) or doing something to relieve the problem (problem-focused coping).

> An encounter judged as requiring acceptance was associated with a greater emphasis on emotion-focused coping, whereas an encounter the person felt could be acted on was associated with a great

> emphasis on problem-focused coping. (Folkman & Lazarus, 1984, p. 44)

By the provision of sensory and procedural preparation and a "significant other," coping processes were less oriented toward emotion regulation. The encounters could have been judged as requiring less acceptance, with the trend towards acting on the encounters by doing something to relieve the problem causing the distress. By verbalizing concerns and emotions with the research nurse during the unfolding of the event, subjects coped with actual and anticipated discomfort and distress - a problem-focused process.

Coping effectiveness requires the management of negatively toned emotions. The post-treatment distress levels suggest that the "mix" of problem and emotion-focused coping processes used by subjects receiving psychological preparation and individualized supportive care were effective in reducing negatively toned emotions. Yet a similar "mix" used by the psychological preparation group was not effectual - post-treatment distress levels were consistently higher. The question then arises as to what contributed to the reduced levels of distress. Psychological preparation alone influenced selection of fewer emotion-focused processes. Only when combined with supportive care did the intervention produce a reduction of negatively toned emotions (distress) and the selection of fewer emotion-focused processes.

The ineffectiveness of psychological preparation in reducing levels of distress may be explained by the absence of a repertoire of coping strategies experienced by subjects in Treatment Group B. Specific advice on coping strategies have been found in the nursing literature to be beneficial in reducing distress (Lindeman, 1971;

Johnson, J., 1985). Cognitive coping techniques such as focusing on the positive, distraction, and imagery may permit versatility in selection of coping strategies and increase confidence in their effectiveness (Johnson, J., 1985). Kavanaugh (1983) studied the effect of a psychological intervention that involved assisting young burn victims (age 2-12) to focus their attention on dressing changes. By increasing the predictability of each sequential step and encouraging subjects to take an active part in the dress changes, controllability was increased. It appears vital to coping effectiveness that a repertoire of strategies and some predictability or control during the unfolding of a stressful event be readily available. Further work may therefore benefit by focusing on secondary appraisal as the mediating variable in stress reduction among burn subjects.

Perception of Social Support

The Social Support Questionnaire was administered by the data collector in the afternoon of the third day of hospitalization and re-adminstered in the afternoon of the third post-grafting tubbing. As problems in the past with the psychological component of the intervention has been associated with confounding preparatory information from additional sources, the Social Support Questionnaire monitored the information, assistance and guidance received by burn patients, the source and satisfaction with such support.

Results demonstrated that subjects selected family members, friends, spouses or significant others as sources of support. Four subjects selected nurses as a source of assistance and guidance. Of 27 questions, a range of two to four questions were responded to with the nurse in mind. Subjects were not consistent in identifying the nurse as a source of support. Identification was noted in either the Social Support Questionnaire administered on the third hospital day or the third post-grafting tubbing, and not both. The nurse researcher was identified as a source of support by one female subject who received psychological preparation alone. Of the remaining three subjects, one 25-year old male with a 25% burn was in the control group, and two males with 55% burns (16 years and 34 years of age) received psychological preparation alone.

Perception of Social Support

Hypothesis V stated that subjects who manifested low distress would perceive the researcher as a significant source of social support in contrast to subject with high distress who would not. This hypothesis was not supported by subjects' responses to the Social Support Questionnaire. Results indicated that subjects selected family members, friends, spouses or significant others as sources of support. Only four subjects identified the nurse, with one subject selecting the nurse researcher. None of the subjects receiving psychological preparation and individualized supportive care recognized the nurse or nurse researcher as a source of assistance or guidance.

It perhaps was not surprising that subjects selected family members and friends. Lazarus (1984) suggested a more useful view of social support as a resource that a person must cultivate and use. Subject assignment was rotated on an irregular basis among nurses who varied in levels of experience, communication skills and problem-solving capabilities required for the care of the emotionally and physically traumatized burn patient. Of the subjects studied, only a small group experienced a consistently present caregiver. But the interaction, aimed at shaping emotions and assisting behavior was limited to a small number of specific encounters. Subjects tended to be appreciative of the attention that psychological preparation or psychological preparation and supportive care offered. Of particular interest was the perception of the nurse as a source of support by three subjects who received psychological preparation. The subjects were consistent in identifying the nurse in response to specific questions asked in the Social Support Questionnaire:

> Who can you really count on to listen to you when you need to talk? Whom can you talk with frankly, without having to watch what you say? Who helps you feel that you truly have something positive to contribute/to others? Whom can you really count on to listen to you when you are angry at someone else? Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way? Whom can you count on to console you when you are very upset?

The responses suggest that the nurse was sought at times of emotional outburst, when anger and frustration were vented. Consolation or a "listening ear" were called upon in these situations.

The results noted in Event III (post-grafting tubbing) suggest a treatment effect attributable, in part, to the warm, trusting relationship between subject and nurse researcher. If social support, as suggested by Lazarus, is a resource that must be cultivated, then a period of time during which the relationship must develop is required. This may explain why treatment effects were not significant until the third encounter.

One question not addressed in the study was the perception of family members or spouses about the role of the nurse as a source of social support. Clinical observation suggested that family members turned to nursing staff for tangible information and emotional support. This could be viewed as a fruitful topic for future research. An additional question to be addressed is the conceptual meaning of social support used in this study. McNett (1987) identified an inconsistency in defining social support in terms of the existence or quantity of social relationships that are measured structurally.

> Assuming that the buffering qualities of Social Support are cognitively mediated, a measure of perception of the available of support would be a more sensitive indicator of its buffering effects than objective structural measures (McNett, 1987, p.99).

The technique for measurement of social support in this study may have been inappropriate. By monitoring subjects' perceptions of social support, the desired "buffering" effects of the caring component of the intervention may have been identified. The identification of the nurse as an objective structural measure of social support is perhaps conceptually incorrect.

CHAPTER V

Conclusions and Recommendations

The purpose of this study was to examine the effectiveness of psychological preparation and individualized supportive care on the distress levels of burn patients encountering the stressful events of tubbing and grafting. A secondary purpose was to determine the effectiveness of the intervention in enhancing purposeful selection of problem-focused coping processes. As problems in the past with the psychological component of the intervention have been associated with confounding preparatory information from additional sources, the Social Support Questionnaire monitored the information, assistance and guidance received by burn patients, the source and satisfaction with such support.

It was recognized that a small sample size would not allow for detection of small variations between the groups, due to the low power of the statistical techniques utilized. Thus, rankings of group levels of distress and group selection of coping processes were done to detect trends in direction of the measurements. The results of the study suggested the following conclusions.

1. Subjects who received psychological preparation prior to tubbing and supportive care during and after the event appeared to manifest less distress than those who did not receive the preparation. There was a directional trend towards decreased levels of distress for the treatment group receiving the combined intervention, and an increase noted in distress post event with the group receiving only the psychological preparation.

2. Subjects who received psychological preparation prior to surgical excision and grafting as well as supportive care prior to and after the event demonstrated less distress than the group receiving psychological preparation. Contrary to the Hypothesis, subjects who received regular nursing care demonstrated the least amount of distress. The directional trend towards increased levels of distress in subjects receiving psychological preparation noted in Event I continued into Event II.
3. Subjects who received psychological preparation prior to tubbing post grafting as well as supportive care during and after the event appeared to manifest less distress than those who received psychological preparation only and those who did not receive the preparation. Higher levels of distress continued to be noted in subjects receiving psychological preparation.
4. Subjects who received psychological preparation and subjects who received psychological preparation and individualized supportive care appeared to select fewer emotion-focused coping processes than subjects in the control group. Low levels of distress were not linked with selection of problem-focused coping processes. Subjects appeared to use a "mix" of problem and emotion-focused coping processes across all three events.
5. Subjects did not select the research nurse as a significant source of social support.

Limitations of the Study

The sample size of this study was small and thus substantive inferences from the findings must be interpreted with caution. The study needs to be replicated with a larger sample. It is possible that with a larger sample, the trend in treatment distress levels observed in Events I and II might be found to be significant. Difficulties encountered in the admission rate of burn patients to hospital limited the sample size to 34 patients over a time frame of 15 months. A depression in the service-sector of the oil industry was greatly reflected in a reduction of industrial-related injuries and, in turn, the number of burn trauma victims. Study replication is suggested in a larger centre with a stable trend in burn admissions.

A second consideration is the selection of the second or third tubbing post-admission for treatment effects. Ethical considerations prevented the first tubbing as the initial encounter. The effects of providing sensory and procedural information for an encounter previously experienced should be considered and the treatment effects interpreted with caution.

A third consideration is the possible effect of the research nurse's personality, style and communication skills on hospitalized burn patients. Replications of this study using other nurses is required in order to determine if the intervention is effective when used by other nurses. In addition, a fourth treatment group should be added to the research design to ascertain if supportive care alone would produce a similar effect of distress reduction as experienced in subjects receiving psychological preparation and individualized supportive care.

The possibility of Hawthorne effects in both treatment groups should not be discounted. Subjects expressed their interest and appreciation on the audiotapes, which may have been reflected in agreement to participate and an attempt in limiting distress response post-intervention. The study results are limited to a small segment of patients - burn patients experiencing the stressful encounters of tubbing and excision and grafting at a particular health care institution. Replication of the study with the audiotapes developed from this study should be cautioned against. Sensory responses must be in adherence to practiced procedural protocol in the institution within which the study will be done.

Implications for Nursing

The findings of this study have implications for nurses caring for the emotionally and physically traumatized burn patient. The effects of psychological preparation and individualized supportive care on reducing levels of distress of in-hospital burn patients encountering stressful procedures have been suggested. The intervention appeared to be effective in reducing levels of distress and assisting in cognitive selection of fewer emotion-focused coping processes. The role of a "significant other" during times of stressful encounters has been suggested. Burn patients are continuously bombarded by distress-producing stimuli during their in-hospital stay that test coping processes. By developing a warm, trusting relationship with a particular nurse, emotions can be vented, information sought, and coping processes enhanced. The study results have clinical significance. An intervention was proposed that can easily be applied in the clinical setting. Nurses assigned to a particular patient may administer the informational tapes prior to the stressful encounter, then accompany the patient as the encounter unfolds. Encounters can be limited to the procedures of tubbing, surgical excision and grafting and post-grafting tubbings.

The sensory and procedural tapes were found to be of assistance and interest to burn patients. To maximize the effectiveness of this type of information, the nurse must be present after exposure to the taped transcript to address patients' questions, misunderstandings or concerns.

Content for the tapes was derived from taped open-ended interviews with ten burn patients who had experienced the events in the particular health care setting within a 12-month time frame. In addition to reporting sensations experienced during specific procedures, the former burn patients expressed needs for preparation and suggestions for care (see Appendix C).

The suggestions have implications for nurses caring for the traumatized burn victim. The injury is unique in that it severely tests the adaptive capabilities of an individual by exposing the patient first to severe pain and the threat of death and later to prolonged convalescence and disfigurement (Noyes, Anderson and Hartford, 1971). When considering the stressful nature of burn trauma treatment and the psychological adjustment required, suggestions for care expressed by former burn victims are of clinical significance.

The tubbing experience was identified as an encounter associated with sensory bombardment. A certain amount of control and predictability was requested by former burn victims during the nurse-controlled tubbing and dressing change. Perhaps by withholding debridement and the cleansing of the wound until physiotherapy is complete, as suggested, a reduction in anxiety and greater patient cooperation would be achieved.

The importance of interpersonal contact with nurses was identified in the interviews and reinforced in the study's results. Burn patients seek attention, support and distraction during nursing procedures to assist in emotional release and coping with anticipated discomfort. The experiences reported indicated the need for nurse-patient interaction and the development of a trusting caring relationship.

Recommendations for Further Study

Further studies could be undertaken to investigate the effects of psychological preparation on distress levels of in-hospital burn patients where the preparation includes audiovisual aids. Suggestions include the use of pictures depicting mesh and sheet grafts, and their progressive change in appearance as healing occurs; audiovisual presentation of the trip to the operating room, including visual presentation of the waiting room and appearance of bulky dressings post-grafting. Many individuals are visual learners and find graphic depiction of events more beneficial than verbal descriptions.

Follow-up studies of burn subjects after discharge could be done. Studies focusing on coping processes during rehabilitation could determine a longitudinal effect of psychological preparation and individualized supportive care on enhancing coping processes and bolstering social support. The rehabilitation stage for burn victims is often lengthy, and research suggests that for person with functional disability social support is often tenuous.

Of particular interest would be studies focusing on the perspective of social support by spouses of burn victims and "significant others." Are nurses perceived as sources of social support by families? If so, is the support perceived as emotional, tangible, or information? It is suggested that perception of support rather than objective structural measures would be more sensitive to the effectiveness of nurse-family interaction.

The effects of psychological preparation and individualized supportive care on reducing levels of distress have been suggested in the event of tubbing post grafting. Replication of the study with a larger sample size is suggested, with analysis of covariance to determine treatment effects between four groups - an additional group receiving the individualized support care intervention. Intra-individual analysis of coping processes selected across events may be a more appropriate methods to determine the effect of treatment on selection, as suggested by Lazarus (1981).

In conclusion, a review of literature demonstrates a lack of empirical investigation on the effects of nursing interventions designed to reduce distress levels of burn patients. When considering the stressful nature of burn trauma treatment and the psychological adjustment required, research into such interventions is greatly needed. The effectiveness of psychological preparation and individualized supportive care has been suggested in episodes of stress that are painful and of long duration. Lazarus' Transactional Model of Stress provides a work framework from which the nursing intervention can be studied for its effectiveness in reducing the ambiguity of the stimulus cue and bolstering social support resources, as reflected in measures of distress response, coping processes and social support perception. This study of a particular nursing intervention designed to reduce levels of distress of in-hospital burn patients was an attempt to fill the knowledge gap that is evident in the nursing literature.

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APPENDIX A

Informed Consent Form

UNIVERSIY OF ALBERTA
FACULTY OF NURSING

NURSING RESEARCH PROJECT

Informed Consent Form

Project Title:	The Effects of Psychological Preparation and Supportive Care on Levels of Distress in In-hospital Burn Patients
Investigator:	Gwynne E. MacDonald, Master of Nursing Candidate Faculty of Nursing, University of Alberta
Advisor:	Dr. Janet Kerr, Faculty of Nursing, University of Alberta

The purpose of this research proposal is to study the effects of a certain kind of nursing care on hospitalized burn patients.

Those who volunteer to be in the study will all receive the regular nursing care practised in the hospital by qualified burn unit nurses. They may or may not be asked to listen to a short tape recording describing what it feels like to have the burn wounds cleansed during a "tubbing" procedure or extra nursing care. They may or may not receive an additional short tape recording describing what they may feel before and after a visit to the operating room.

You will be asked to answer questions before and after the nursing care is given. This will take about 15-30 minutes each time. Chart information will also be used in this study.

All information is strictly confidential and names of those participating will not be used in reporting study results.

Although there may not be a direct benefit to you from being involved in this study, results gained through your participation may contribute to a better understanding of the needs of burn patients.

THIS IS TO CERTIFY THAT I, ________________________, hereby agree
(Print Name)
to participate as a volunteer in the above described research project.

I CONSENT to participate in the questionnaire interview, to allow my chart to be reviewed by the nurse researcher and to receive additional nursing care on three specified occasions.

I UNDERSTAND that I am free to answer or not answer specific questions asked of me. I also understand that I am free to withdraw my consent and terminate participation at any time without affecting the relationship with the institution or care provided by nurses, my physician or any persons.

I HAVE BEEN GIVEN THE OPPORTUNITY TO ASK WHATEVER QUESTIONS I DESIRE AND ALL SUCH QUESTIONS HAVE BEEN ANSWERED TO MY SATISFACTION.

______________________________ ______________________________
(Signature) (Date)

______________________________ Subject Code Number ______________
(Witness)

APPENDIX B

Transcripts of Audiotape Presentations

Procedural Tape #1 Tubbing

(with typical sensations)

Duration: 11 minutes

Tubbing, or submersion of the body into a warm water bath, is a daily procedure all burn patients experience during their stay in hospital. It is a necessary procedure because it attempts to give your burn injuries the best chance possible for healing. How tubbing accomplishes this goal will become clearer when each step of the procedure is described in the following tape presentation.

About one half hour before your scheduled tubbing, a nurse will begin to remove the outer dressings protecting your burns. She will use scissors to cut away the bulky outer dressing material, gently removing the material until only thin mesh covering your burns are exposed. Some parts of the dressing will feel dry while other parts damp, as they have soaked up the drainage that has naturally accumulated on your burns. If the drainage has caused the dressings to stick to your burns, and cannot be gently removed, the nurse will leave them to be soaked off once you are in the tub. You will notice that the nurse has on a mask, cap, gloves and a gown - this is to protect you against infection. Because your skin, which normally acts as a protective shield against infection has been damaged, you are susceptible to infection. Therefore, each person who enters your room while your burns are exposed or assists in your tubbing will be dressed in this manner.

Once the dressings have been removed, you are ready to be transported to the tubbing room. The tubbing room is only a short distance away. You will be asked to move from your bed onto a stretcher that has been placed on one side of your bed. It is this stretcher that will be submerged into the warm bath water. Moving from the bed to the stretcher is sometimes difficult - you may feel weak, and it is sometimes awkward when you have an intravenous and a tube to help you go to the bathroom. Do not worry - there will be a nurse and a porter to suggest how best to move your body and to help lift you if you need a hand. If the stretcher feels narrow, do not worry - there is enough room on it to safely transport you to the tubbing room. Once on the stretcher, you will be moved out of your room, past the nursing station, to the end of a short hallway and into the tubbing room. The tubbing room is bright and will feel warm - there will be a certain smell about the place that you will recognize as the smell of antiseptic. Even if you have your eyes closed, you will know when you are approaching the tubbing room because you can smell that smell. You will be tubbed in either the large hubbard tank, where you can stretch your arms out, or in a smaller tub, about the size of your bath tub at home. You can expect to be in this room for about 30 minutes. The tub will have already been filled with warm water, about the temperature of the bath water you would use at home. Your stretcher will be moved towards the tub - the stretcher will be connected to a lifting mechanism - you will feel an initial jarring sensation as the lift slowly moves the stretcher towards the tub. The stretcher will rise, then be gently lowered until just the top of the stretcher is submerged into the water. If you are using the hubbard tank, you will notice the gentle humming of an electric motor that allows the stretcher to be moved. As the water comes in contact with your burned areas there will be an initial stinging or tingling sensation, making you conscious of where the burned areas are - the burned areas will feel warmer than the unburned parts. But this will gradually subside, and the warm water will begin to feel soothing. You will notice several people with you during your tubbing - a physiotherapist and one or two nurses. Each one has a specific job. The physiotherapist will guide you through exercises involving the parts of your body that have been burned. She will instruct you on how to move each part so that the proper movements and exercises are accomplished. Because a person is not conscious of the normal range of movement each limb goes through each day, the physiotherapist will guide you by placing her hands on the limb and helping you to move it in the direction that best exercises the body part. Think of the movement of that limb as an elastic - before you were burned, that elastic stretched and shortened each time you moved. While your burn wounds heal, it is very important that you not lose the amount of stretch that is possible. The physiotherapist's instructions help stretch and shorten that elastic so that when your wounds heal, you will have the best movement possible. You will feel stiff at first, and there may even be some discomfort in the joints, a sensation similar to a toothache but as you exercise the joints, you will work the stiffness out and it will feel better. The physiotherapist's instructions will require your full attention - concentrate on the limb being exercised. As the days progress, you will begin to notice an improvement.

The nurse will gently remove the dressings that cover your burn injuries - if the dressing sticks, she will splash warm water over the area until it can be removed. Once the dressing has been removed, your burns are exposed. To give your burn injuries the best chance possible to heal, the wounds must be cleansed of the drainage that has naturally accumulated on the surface. Because the burn has destroyed the outside layers of your skin, the damaged tissue must be removed to give the inner layers a chance to heal. This is accomplished by using forceps and scissors to gently snip away at the loose dead skin. Although there is a certain amount of discomfort involved with this step, the medication given prior to your tubbing will help relax you and dull the discomfort, making it more manageable. The burns are cleansed with a face cloth or dressing material soaked with bath water and a mild antiseptic. The nurse will gently move the cloth over the burns. Because hair attracts and shelters bacteria, all hair in and around the burn will be shaved and wiped away. Your scalp will be washed with shampoo and the unburned parts of your body cleansed with a face cloth: Once the nurse and physiotherapist have completed your jobs, your body will be rinsed with a gentle spray from a hand-held shower by the nurse. The burns may again feel warmer than the rest of your body but as the spary is gentle, it will feel soothing. The stretcher will then be lifted from the water. You may feel initially cool - similar to the feeling at home when you just step out of the shower. Once the air comes in contact with the burns, there will be a stinging sensation. But the coolness and stinging will subside once the nurse applies saran wrap over the burns. The saran wrap protects the burns from the air and will feel like a nice warm wet blanket that holds in the body heat and you will feel yourself getting warm. To keep you feeling warm, thick clean cloth squares called soakers will be placed underneath and overtop of your body. You are now ready to be moved to the dressing room, a brightly lit room just next door that has been warmed by large lights. Depending on the extent of your burns, you can expect about 30 to 45 minutes to be spent in this room. You will be asked to move onto a clean, dry stretcher - again, as with the first time, you be given assistance by the nurse and porter and may in fact be lifted. The nurse will have prepared all the dressing supplies she will need before you were tubbed. To keep you as warm as possible, the nurse will work on one area at a time, keeping the rest of your body covered. As the saran wrap is removed and the air comes in contact with your burns, the stinging sensation returns. But this sensation is taken away once a single layer of fine mesh gauze, lathered with a cream that helps control the growth of bacteria, is applied over the burns. The cream will feel cool and soothing to the burns. A single layer of dressing is then applied and kept in place with rolled gauze. This outer dressing serves the purpose of absorbing the drainage that naturally accumulates on the surface of your burns. To keep all the dressings in place, a loosely knit stocking like material will be added. If your face has been burned, the nurse will cover the burn areas with a light dressing that has been soaked with salt water that will feel cool to your face when first applied. If your back or chest has been burned, a very light green colored sheet to which cream has been applied will be placed over the burn areas, again cooling that stinging sensation from your burns. The green sheets will feel good because they will move with your body as you move. If your hands need a protective covering, each finger will be dressed one at a time. A light-weight plastic splint will be added upon completion of the dressing - the splint supports your hands and other body parts if they have been burned, such as arms, legs or feet in a proper position. The splint plays an important role in maintaining or increasing the range of motion that the physiotherapist tries to reach during your daily exercises. Once again the dressings will feel bulky, yet clean and comfortable. Your dressings will be done as quickly as possible. Once the nurse is finished, you will return to your room and again be moved from the stretcher to your bed. The tubbing procedure will then be completed.

I hope this information will be helpful to you and will answer some of the questions you may have had. If you have additional questions, I am available now to answer them.

Procedural Tape #2 OR: Excision and Grafting

(with typical sensations)

Duration: 6 minutes

When a burn wound is too deep to heal on its own, it is possible to remove the burned tissue and cover the exposed area with healthy skin. This procedure, called grafting, is done in the operating room. Healthy skin is removed by a surgeon from an unburned area on your body. The piece of skin if left intact is called a sheet graft. If the skin is stretched and made larger by small slits in its surface, it is called a mesh graft - "mesh" because of the texture and appearance it takes. The skin graft will be held in place by metal staples or by sutures. The area of your body from which the healthy skin is taken is called the donar site, which will gradually heal on its own over a period of about 10 days.

You will have just returned from your daily tubbing. You will notice that your burns that are to be grafted have been dressed differently than they have on previous days - to keep the wounds clean and moist, warm, wet, salt water soaks have been applied. The saran wrap over top helps prevent the soaks from drying, and the loose dressing over top keeps the soaks from slipping off. Your burns that are not to be operated on will have been dressed in their usual way.

About 30 to 45 minutes before your scheduled surgery, you may receive an injection of a medication that will help sedate and relax you. Shortly afterwards, a porter from the operating room will arrive in the unit to transport you.

As you are moving out of the unit and down the hallways, you will feel the bed going over some tiles - looking up you will see the holes in the ceiling and the bright lights of the hospital. Looking around you, you will see a lot of new areas of the hospital going by and see the occasional nurse or orderly or someone walking by. The trip through the hallways and down elevators to the OR will seem long. You may feel sleepy from the medication you received. As you approach the operating room, you will be moved into a waiting room where there will be stretchers and other patients waiting. There will be a clock on the wall. A nurse will approach you when you are ready to be moved into the operating room and accompany you, talking to you about the operation. The operating room may seem warm because of the bright lights. A board of bright lights are situated directly over the operating room bed; making the corners of the room seem darker. You may recognize the face or voice of the anesthetist who may have visited you the night before. The time spent in the operating room will seem like minutes. It will seem that you just fell asleep and the next thing you will know, you will be awake again. It will just seem like seconds. You may not in fact remember the trip back to your room. You will feel quite drowsy and be drifting off to sleep frequently. A nurse will meet you at the doors of the unit and help you move your bed into the room. The nurse will take your heart rate and blood pressure and check all your dressings. The nurse will do this quite frequently during the first couple of hours - do not worry, this is a normal routine and not unusual. You will notice that the dressings over your new grafts will be very bulky. The dressings will feel very heavy and in fact feel like casts or weights are on the limb that has been grafted. They may feel tight. Do not worry - the dressings prevent the graft from being moved in any way and, as well, to absorb the drainage that is expected from the operative sites.

The bulky dressings will restrict some of the movement you had before surgery. As well, to protect your grafts there may be some positions in bed that will be restricted - do not worry, this is all part of the routine. Your donar site will feel tight - this is because it is heavily bandaged, in order to provide pressure to the site and absorb any blood that oozes from the area. The donar site may cause more discomfort than your grafts as it is an area that previously had not been a bother to you. A nurse will always be there to try to make you as comfortable as possible. It will seem to be a sleepy time for you - and in fact, it may not be until the next day that you feel back to your normal self.

I hope this information will be helpful to you and will answer some of the questions you may have. If you have additional questions, I am available now to answer them.

Procedural Tape #3 Tubbing Post-Grafting

(with typical sensations)

Duration: 12 minutes

Tubbing or submersion of the body into a warm water bath is a daily procedure all burn patients resume several days after their burn injuries have been grafted. It is a necessary procedure because it attempts to give your grafts and burns the best chance possible to heal. How tubbing accomplishes this goal will become clear when each step of the procedure is described in the following tape presentation.

About one half hour before your scheduled tubbing, a nurse will begin to remove the outer dressings protecting your grafts and burns. She will use scissors to cut away the bulky outer dressing material, gently removing the material until only the thin mesh covering your burns are exposed. The dressings may feel dry in areas and damp in others, as they have soaked up the drainage that naturally accumulated on your burns. The dressings over your grafts will be taken down as much as possible - because they have been in place for several days and because old blood has accumulated under the dressing, they will stick more than usual. To protect the graft the nurse will leave the dressing on to be soaked off in the tub.

Once the dressings have been removed as much as possible, you will be asked to move from the bed to the stretcher that has been positioned on one side of your bed. Because you have been on bed rest since your surgery and because of the discomfort your donar site may be experiencing, you may feel weak and may in fact need a hand from the nurse and porter. Once on the stretcher, you will be transported out of your room, down the short hallway into the tubbing room. You can expect to be in this room for about 30 minutes. The room will seem bright and warm. The tub will already be filled with warm water, about the temperature of the bath water you would use at home. Your stretcher will be moved towards the tub until it is possible to submerge the stretcher into the water. You and the stretcher will then be submerged into the water. To protect your donar site from the water, the area will be kept out of the water - that part may feel chilled. It may feel awkward if your leg is supported on the edge of the tub.

As with your previous tubbings, there will be several people with you during your tubbing - a physiotherapist and one or two nurses. Each one has a specific job. The nurse will gently remove the dressings that cover your burn wounds and grafts - if the dressing sticks, she will splash warm bath water over the area until it can be removed. She will carefully remove the dressing over your graft, to prevent the graft from being torn or being pulled along with the dressing. You may notice the bath water is a darkish brown in color - do not be alarmed; it has been stained by the old blood of the dressings protecting your grafts; your grafts and burns are now exposed. The graft may not have the appearance that you are expecting. The sheet graft in fact may appear almost purple in color, with occasional blue spots from blood that has clotted underneath its surface. There will be some raised areas where staples or sutures hold the graft in place. Do not be alarmed - each day you will note the graft changing in appearance. As the days pass, there will be less of a blue spot from the blood clots underneath as they are rolled out by the nurse using a Q-tip. They will become lighter in color, as the purple or redness fades and they become pinker and whiter in color. The staples will be gradually removed, and the raised areas that you noted will all go down. It if is a mesh graft, that initial redness will again fade with time. There will be an overlap of skin that will be snipped away and as time passes and the graft heals, the skin tones will return.

As with your burn injuries, the graft will be cleansed of the drainage that has accumulated on its surface. If drainage has accumulated under the graft, the nurse will attempt to remove it by gently rolling a Q-tip over the area. This may be done again in the dressing room. The graft will be sensitive to the weight of the Q-tip, but little discomfort is involved. The graft will not be left to soak any longer than 5-10 minutes in the bath water. In fact, the sheet graft may only be soaked for 1-2 minutes. You may notice that the grafted area may take longer to feel the temperature of the water, and that the discomfort associated with the area prior to grafting has diminished. Once the graft has been cleansed, the nurse will cleanse the non-grafted areas, gently snipping away any loose, dead skin.

The range of motion exercises will be done first as before on all ungrafted areas. The newly grafted areas will be exercised gently with not as much movement being done as before the grafting. The exercises will be done if the physiotherapist thinks the grafts are stable enough and ready for it. You may have lost some movement since the grafting but do not worry - with some work it can be quickly regained.

Your scalp will be washed, and the unburned parts of your body cleansed with a face cloth. Your donar site will not be submerged in water - the gauze that covers the site will dry completely over the next days and gradually lift off as the tissue heals underneath. Once the nurse and physiotherapist have completed their jobs, your body will be rinsed as before with a gently spray from a hand-held shower. The stretcher will then be lifted from the water. Saran wrap will be applied over top of the grafted sites and your burn injuries for protection. To keep you warm, soakers will be placed underneath and over top of your body. You are now ready to be moved to the dressing room just next door. Depending on the extent of your burn injuries, you can expect about 30-45 minutes to be spent in this room. You will be asked to move onto a clean, dry stretcher - again, as with the first time, you be givn assistance by the nurse and porter and may in fact be lifted. Special care will be given to moving the grafted sites, to protect them as much as possible. To keep you as warm as possible, the nurse will work on one area at a time, keeping the rest of your body covered. Your burn injuries that have not been grafted will be dressed in the same way as before. Remember that the purpose of the dressing is to control the growth of bacteria, to remove any loose dead tissue, and to absorb the drainage that accumulates. To keep your grafts protected and dry, a single layer of fine-mesh gauze is applied, followed by a layer of dressing and kept in place with rolled gauze. As with all your dressing changes, splints will then be applied to provide support and to keep that part of your body in a proper position.

Your dressings will be done as quickly as possible. Once the nurse is finished, you will return to your room and again be moved from the stretcher to your bed. The tubbing procedure will then be completed.

I hope this information will be helpful to you and will answer some of the questions you have have had. If you have additional questions, I am available now to answer them.

APPENDIX C

Suggestions for Preparation and Nursing Care

by Former Burn Patients

Content for the tapes was derived from taped open-ended interviews with ten burn patients who had experienced the events in the particular health care setting within a 12-month time frame. In addition to reporting sensations experienced during specific procedures, the former burn patients expressed needs for preparation and suggestions for care.

The tubbing procedure was identified as an encounter associated with sensory bombardment.

> Okay. What we ended up doing was, the first memories I have of it or that I was really conscious of being in the tub and the procedure was as follows. I was placed in the water and then the therapist came in, it was the 7:30 a.m. appointment. The nurses and whoever was available to help, you know, pull away any dressings that were stuck and I don't know what they called it when they take off all the loose scabs and what not, they would start doing that and at the same time the physiotherapist would be saying "Now, bend your wrist" or "Bend your knees" or whatever and it was just sensory bombardment. You had pain going on, people picking at you, somebody wanting to shave you, you know, so finally I said "Look, let the physiotherapist come in, give her 15 minutes to go over me and then attack." You know, leave us alone for 15 minutes because I couldn't concentrate on the therapy and I could not relax and just breathe through the pain and everything was twice as hard. Once we started doing that it was a lot easier. That is something that should be a standard procedure, I think.
>
> ...I was so sensitive that I could feel every movement that they made. Sometimes before they even touched me I was jumping, you

> know, because I thought they would hurt me. I myself like it better to have one thing done. Just the same as one nurse working on one leg and the other nurse on the other leg. Well, one is tender and the other one is so rough that, you know, they try to be gentle but it is not the same. You don't know which one to watch. You say ouch and one says "Oh, did I hurt you?" And I say "No, the other one hurt me."

A certain amount of control and predictability was requested by the patient during the nurse-controlled tubbing and dressing change. Kavanaugh (1983) studied the effect of encouraging children to take an active part in the dressing changes to increase its controllability. A significant reduction of anxiety, depression and greater patient cooperation was associated with perceived predictability and controllability during the dressing change. Perhaps by withholding debridement and cleansing of the wounds until physiotherapy is complete, a reduction in anxiety and greater patient cooperation could be achieved.

The importance of interpersonal contact with nurses was identified in the interviews and reinforced by the study's results. Burn patients seek attention, support and distraction during nursing procedures to assist in emotional release and coping with anticipated discomfort.

> I think it is really important for the nurses to maintain, interact with you. You know, talk to you while they are working with you. You are not a piece on an assembly line that is being added to or taken from. You are lying there and you are a person and these people know a lot about you and you feel like you really want to talk to them and some nurses, you know, maybe because of

their cultural background or the type of person they are, they don't talk to you or discuss anything or talk about the weather even. It is nice to get on a topic. It kind of distracts from what is going on. It makes the experience something that, you know, for the most part it could be something to look forward to rather than something that you dread. That is why with the physiotherapy I find that they like to distract you more while they are stretching you or whatever. That helps. When they are applying the pain, if they can distract you then they can get more progress. The same thing applies to the dressings. Any disturbance while you are in that stage equates to pain.

Maybe it is like brainwashing. But I know it works on me. If I tell myself that I am in no pain and that is it. Sometimes I talk to myself, you know, it is because you like to talk and talking to somebody is the best, in a way it is the best cure you need. The medicine can work great on you, but it will slow things down and it will take time. Talking to someone, sort of releases the pain, you know.

The only time I really have any kind of real memory of after a graft was when they grafted my forehead and the nurses had to roll it, it was every hour or so, they had to roll it to try to keep that blood from clotting underneath, keep it nice and flat and smooth. I remember it being painful, but I liked the attention, you know, so after a while I almost got used to it and I just, you would be laying there in the middle of the night and it would be

> dark and they would come in and at first think you were asleep and start rolling your graft, at least it seemed dark. I don't really know, but I remember them coming in and you would wake up and they would be there and rolling the graft. That is the only real memory I have.

The experiences reported by former burn patients indicate the need for nurse-patient interaction and the development of a trusting, caring relationship.

> I think the main thing is to, as you are taking them through the procedure, is to offer them an explanation of what is going on. Some people don't like to know, some people are the type that want everything vividly laid out in front of them. I think dealing with them is, you know, on a personal basis is really important. I had a nurse that I got really attached to in the burn ward and she became attached to me and she was almost the mother hen figure to me and they ended up separating us and that is a danger. There has got to be a fine line where they can be your friend and help you out.

Perhaps the assignment of one nurse to a specific patient over a series of stressful encounters would provide more opportunity for the establishment of a warm and trusting relationship.

APPENDIX D

Pretest and Posttest Profile of Moods Questionnaire

Profile of Moods Questionnaire

I will read a list of words that describe feelings people have. Please listen to each one carefully. Then select the answer which best describes HOW YOU ARE FEELING RIGHT NOW.

The numbers refer to these phrases:

0 - Not at all
1 - A little
2 - Moderately
3 - Quite a bit
4 - Extremely

The instrument consists of 65 5-point adjective rating scales which are factored into six mood scores: tension-anxiety; depression-dejection; anger-hostility; vigor-activity; fatigue-inertia; confusion-bewilderment. An overall mood score is calculated by adding the six mood scores, with vigor-activity being a minus value.

APPENDIX E

Posttest Ways of Coping Questionnaire

WAYS OF COPING (Revised)

Please listen to each item and indicate, by selecting the appropriate category, to what extent you used it in the situation just described (tubbing; surgical excision and grafting; tubbing post grafting).

	Not Used	Used somewhat	Used quite a bit	Used a great deal
1. Just concentrated on what I had to do next -- the next step.	0	1	2	3
2. I tried to analyze the problem in order to understand it better.	0	1	2	3
3. Turned to substitute activity to take my mind off things.	0	1	2	3
4. I felt that time would make a difference -- the only thing to do was to wait.	0	1	2	3
5. Bargained or compromised to get something positive from the situation.	0	1	2	3
6. I did something which I didn't think would work, but at least I was doing something.	0	1	2	3
7. Tried to get the person responsible to change his/her mind.	0	1	2	3
8. Talked to someone to find out more about the situation.	0	1	2	3
9. Criticized or lectured myself.	0	1	2	3
10. Tried not to burn my bridges, but leave things open somewhat.	0	1	2	3
11. Hoped a miracle would happen.	0	1	2	3
12. Went along with fate; sometimes I just have bad luck.	0	1	2	3
13. Went on as if nothing had happened.	0	1	2	3
14. I tried to keep my feelings to myself.	0	1	2	3
15. Looked for the silver lining, so to speak; tried to look on the bright side of things.	0	1	2	3
16. Slept more than usual.	0	1	2	3
17. I expressed anger to the person(s) who caused the problem.	0	1	2	3
18. Accepted sympathy and understanding from someone.	0	1	2	3
19. I told myself things that helped me to feel better.	0	1	2	3
20. I was inspired to do something creative.	0	1	2	3
21. Tried to foget the whole thing.	0	1	2	3
22. I got professional help.	0	1	2	3

		Not Used	Used somewhat	Used quite a bit	Used a great deal
23.	Changed or grew as a person in a good way.	0	1	2	3
24.	I waited to see what would happen before doing anything.	0	1	2	3
25.	I apologized or did something to make up.	0	1	2	3
26.	I made a pan of action and followed it.	0	1	2	3
27.	I accepted the next best thing to what I wanted.	0	1	2	3
28.	I let my feelings out somehow.	0	1	2	3
29.	Realized I brought the problem on myself.	0	1	2	3
30.	I came out of the experience better than when I went in.	0	1	2	3
31.	Talked to someone who could do something concrete about the problem.	0	1	2	3
32.	Got away from it for a while; tried to rest.	0	1	2	3
33.	Tried to make myself feel better by eating, drinking, using drugs or medication, etc.	0	1	2	3
34.	Took a big chance or did something very risky.	0	1	2	3
35.	I tried not to act too hastily or follow my first hunch.	0	1	2	3
36.	Found new faith.	0	1	2	3
37.	Maintained my pride and kept a stiff upper lip.	0	1	2	3
38.	Rediscovered what is important in life.	0	1	2	3
39.	Changed something so things would turn out all right.	0	1	2	3
40.	Avoided being with people in general.	0	1	2	3
41.	Didn't let it get to me; refused to think too much about it.	0	1	2	3
42.	I asked a relative or friend I respected for advice.	0	1	2	3
43.	Kept others from knowing how bad things were.	0	1	2	3
44.	Made light of the situation; refused to get too serious about it.	0	1	2	3
45.	Talked to someone about how I was feeling.	0	1	2	3
46.	Stood my ground and fought for what I wanted.	0	1	2	3
47.	Took it out on other people.	0	1	2	3

		Not Used	Used some-what	Used quite a bit	Used a great deal
48.	Drew on my past experiences; I was in a similar situation before.	0	1	2	3
49.	I knew what had to be done, so I doubled my efforts to make things work.	0	1	2	3
50.	Refused to believe that it had happened.	0	1	2	3
51.	I made a promise to myself that things would be different next time.	0	1	2	3
52.	Came up with a couple of different solutions to the problem.	0	1	2	3
53.	Accepted it, since nothing could be done.	0	1	2	3
54.	I tried to keep my feelings from interfering with other things too much.	0	1	2	3
55.	Wished that I could change what had happened or how I felt.	0	1	2	3
56.	I changed something about myself.	0	1	2	3
57.	I daydreamed or imagined a better time or place than the one I was in.	0	1	2	3
58.	Wished that the situation would go away or somehow be over with.	0	1	2	3
59.	Had fantasies or wishes about how things might turn out.	0	1	2	3
60.	I prayed.	0	1	2	3
61.	I prepared myself for the worst.	0	1	2	3
62.	I went over in my mind what I would say or do.	0	1	2	3
63.	I thought about a how a person I admire would handle this situation and used that as a model.	0	1	2	3
64.	I tried to see things from the other person's point of view.	0	1	2	3
65.	I reminded myself how much worse things could be.	0	1	2	3
66.	I exercised.	0	1	2	3
67.	Something completely different from any of the above (please describe).	0	1	2	3

APPENDIX F

Empirically Constructed Scales for Ways of Coping Questionnaire

Empirically Constructed Scales from the WAYS OF COPING (Revised) (Community Sample)

TO SCORE THE SCALES, SUM RATINGS FOR EACH SCALE.

	Factor Loading
Scale 1: Confrontive coping (alpha - .70)	
46. Stood my ground and fought for what I wanted.	.70
7. Tried to get the person responsible to change his or her mind.	.62
17. I expressed anger to the person(s) who caused the problem.	.61
28. I let my feelings out somehow.	.58
34. Took a big chance or did something very risky.	.32
6. I did something which I didn't think would work, but at least I was doing something.	.30
Scale 2: Distancing (alpha - .61)	
44. Made light of the situation; refused to get too serious about it.	.55
13. Went on as if nothing had happened.	.54
41. Didn't let it get to me; refused to think about it too much.	.50
21. Tried to forget the whole thing.	.49
15. Looked for the silver lining, so to speak; tried to look on the bright side of things.	.34
12. Went along with fate; sometimes I just have bad luck.	.25
Scale 3: Self-controlling (alpha - .70)	
14. I tried to keep my feelings to myself.	.55
43. Kept others from knowing how bad things were.	.46
10. Tried not to burn my bridges, but leave things open somewhat.	.40
35. I tried not to act too hastily or follow my first hunch.	.40
54. I tried to keep my feelings from interfering with other things too much.	.37
62. I went over in my mind what I would say or do.	.37
63. I thought about how a person I would admire would handle the situation and used that as a model.	.28
Scale 4: Seeking social support (alpha - .76)	
8. Talked to someone to find out more about the situation.	.73
31. Talked to someone who could do something concrete about the problem.	.68
42. I asked a relative or friend I respected for advice.	.58
45. Talked to someone about how I was feeling.	.57
18. Accepted sympathy and understanding from someone.	.56
22. I got professional help.	

	Factor Loading
Scale 5: Accepting responsibility (alpha - .66)	
9. Criticized or lectured myself.	.71
29. Realized I brought the problem on myself.	.68
51. I made a promise to myself that things would be different next time.	.49
25. I apologized or did something to make up.	.39
Scale 6: Escape-Avoidance (alpha - .72)	
58. Wished that the situation would go away or somehow be over.	.66
11. Hoped a miracle would happen.	.55
59. Had fantasies about how things might turn out.	.54
33. Tried to make myself feel better by eating, drinking, using drugs or medication, etc.	.49
40. Avoided being with people in general.	.46
50. Refused to believe that it had happened.	.42
47. Took it out on other people.	.40
16. Slept more than usual.	.36
Scale 7: Planful problem-solving (alpha - .68)	
49. I knew what had to be done, so I doubled my efforts to make things work.	.71
26. I made a plan of action and followed it.	.61
1. Just concentrated on what I had to do next -- the next step.	.45
39. Changed something so things would turn out all right.	.44
48. Drew on my past experiences; I was in a similar position before.	.40
52. Came up with a couple of different solutions to the problem.	.38
Scale 8: Positive reappraisal (alpha - .79)	
23. Changed or grew as a person in a good way.	.79
30. I came out of the experience better than when I went in.	.67
36. Found new faith.	.64
38. Rediscovered what it important in life.	.64
60. I prayed.	.56
56. I changed something about myself.	.55
20. I was inspired to do something creative.	.43

The intercorrelations among the coping scales averaged over 5 occasions are shown on page

Eight Coping Scales:
Intercorrelations Averaged Over Five Occasions

Scale	1	2	3	4	5	6	7	8
1. Confrontive coping		.01	.36	.27	.26	.27	.28	.26
2. Distancing			.36	-.04	.27	.32	.09	.13
3. Self-controlling				.24	.30	.36	.37	.39
4. Seeking social support					.09	.23	.30	.32
5. Accepting responsibility						.39	.13	.18
6. Escape-avoidance							.10	.23
7. Planful problem-solving								.39
8. Positive reappraisal								---

APPENDIX G

Social Support Questionnaire

Social Support Questionnaire

Please listen to each item and indicate whom you would turn to in the situation described. You may select up to nine individuals. Please indicate how satisfied you are with this support by selecting the appropriate category.

Example:

Whose lives do you feel that you are an important part of?

No one 1) 4) 7)
2) 5) 8)
3) 6) 9)

How satisfied?

6 - very satisfied
5 - fairly satisfied
4 - a little satisfied
3 - a little dissatisfied
2 - fairly dissatisfied
1 - very dissatisfied

1. Whom can you really count on to listen to you when you need to talk?
2. Whom could you really count on to help you if a person whom you thought was a good friend insulted you and told you that he/she didn't want to see you again?
3. Whose lives do you feel that you are an important part of?
4. Whom do you feel would help you if you were married and had just separated from your spouse?
5. Whom could you really count on to help you out in a crisis situation, even though they would have to go out of their way to do so?
6. Whom can you talk with frankly, without having to watch what you say?
7. Who helps you feel that you truly have something positive to contribute to others?
8. Whom can you really count on to distract you from your worries when you feel under stress?
9. Whom can you really count on to be dependable when you need help?
10. Whom could you really count on to help you out if you had just been fired from your job or expelled from school?
11. With whom can you totally be yourself?

12. Whom do you feel really appreciates you as a person?

13. Whom can you really count on to give you useful suggestions that help you to avoid making mistakes?

14. Whom can you count on to listen openly and uncritically to your innermost feelings?

15. Who will comfort you when you need it by holding you in their arms?

16. Whom do you feel would help if a good friend of yours had been in a car accident and was hospitalized in serious condition?

17. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?

18. Whom do you feel would help if a family member very close to you died?

19. Who accepts you totally, including both your worst and your best points?

20. Whom can you really count on to care about you, regardless of what is happening to you?

21. Whom can you really count on to listen to you when you are very angry at someone else?

22. Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way?

23. Whom can you really count on to help you feel better when you are feeling generally down-in-the-dumps?

24. Whom do you feel truly loves you deeply?

25. Whom can you count on to console you when you are very upset?

26. Whom can you really count on to support you in major decisions you make?

27. Whom can you really count on to help you feel better when you are very irritable, ready to get angry at almost anything?